

REVIEW: MacBook Air Gains
Big Battery Boost



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iOS 7

Apple's
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Gets a
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iOS 7's Design Is Its Least Exciting Feature

Though the operating system sports a fresh new look, the most important changes are elsewhere.

The iOS 7 preview that Apple showed off at its recent Worldwide Developers Conference sports an overhauled look. With its parallax animation, flatness, and 3D effects, iOS 7 seems like a brand-new mobile operating system, albeit one you already know how to use. But don't imagine that iOS 7's changes are only screen deep. Ultimately the dramatic visual changes may be the OS's least exciting update. (For our in-depth coverage, see "Here Comes iOS 7" on page 32.)

The previews that Apple provided during the WWDC keynote and on its website clearly indicate that though iOS 7 appears very different, it's still basically the same operating system we've become familiar with since the original iPhone. The buttons look less like buttons, however, and there's a lot more white space and a lot less skeuomorphism to go around.

The visual changes include animated backgrounds, a new keyboard, new icons, and a new visual take on most of iOS's visual elements. But—and I mean this in the nicest possible way—so what?

Annoyances Eliminated

To me, the most annoying limitations of iOS include mediocre multitasking, lack of quick access to settings, and unsatisfactory battery life. iOS 7 purports to address all three. Control Center, a panel you can swipe up from the bottom of the screen, will offer nonstop access to toggles for Bluetooth, AirDrop, AirPlay, Wi-Fi, Airplane Mode, Do Not Disturb, and orientation lock; apps like Clock, Calculator, and Camera; and even a built-in flashlight. I'd be eager to install Control Center on my iPhone even if it were iOS 7's sole new feature.

I'm excited about the announced updates for multitasking, too. Apps will now be able to pull down fresh data even when they're not running, giving seem-



Features such as Control Center and improved multitasking sound awesome, but are really just the tip of the iOS-berg.

ingly magical powers to the apps that you rely on: You'll launch your podcasts app, or your Twitter app, or your read-it-later app, or anything else and, rather than wait for the latest content to download while you stare at a spinner or stale data, you should see the latest information already available. That's awesome.

Android owners, who have had such multitasking features for a while, may mock my enthusiasm for that feature's impending arrival in iOS. But Apple claims that iOS 7's multitasking will rely on intelligent algorithms: Apps you frequently use will get more time to work in the background than apps you use less often; and apps you turn to first thing in the morning will pull down data before then, but perhaps not throughout the rest of the day.

Thanks to those multitasking smarts, the multitasking improvements in iOS 7 should not ruin battery life. That's a big deal.

But Wait, There's More...

What's really exciting about iOS 7 is that features such as Control Center and improved multitasking sound awesome, but are really just the tip of the iOS-berg. Apple could build an entire iOS release around several other promised features, too: AirDrop will let you send files wirelessly to other people nearby without requiring any special configuration—and it's likely that such hassle-free, ad-hoc connections will prove a boon to local, wireless gameplay, too.

At WWDC, Apple showed off a new tab in Notification Center that looks downright Google Now-ish, mixing weather conditions with your next appointment, travel times, and other such strands of information. And the new Missed tab in Notification Center will offer a feature that I've wanted since Notification Center's launch: a view seemingly sorted just like notifications on the lock screen, with most recent alerts first, instead of grouped unnecessarily by app.

When you factor in additional iOS improvements such as the faster camera with filters and other options, lots of enhancements to photo sharing and organization, and new capabilities in my favorite iOS feature, Siri, you get the sense that this operating system will be overwhelming. In a good way.

More Than Screen Deep

So yes, iOS 7 will immediately and obviously look different to anyone who spots it. I appreciate the design efforts behind such a change, and I don't doubt that countless iOS app designers will work to update their own apps to fit in better.

To me, though, the fresh coat of paint and special effects just pale in comparison to the other, meatier features that Apple announced. Beauty is only screen deep; when I describe iOS 7's delightful features, I won't be referring to its looks.



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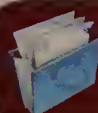
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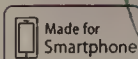
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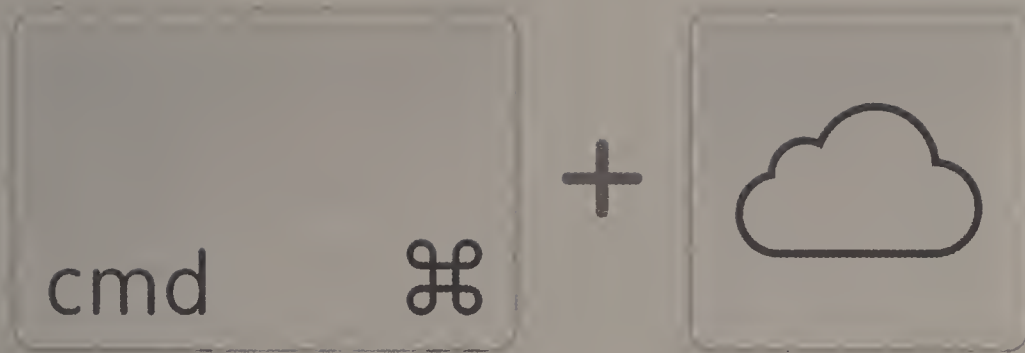
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Excitement, Waiting for Fall

This year's Worldwide Developers Conference was jam-packed: We saw new versions of OS X and iOS 7, updated Mac Pro and MacBook Air models, and plenty more to get us excited for the fall. This month, we look at the viability of the new Pro machines, App Store pricing, and tweets about WWDC.

IS \$5 AN APP TOO MUCH?

"How Cheap Apps Could Kill the App Store" [From the Editor's Desk, July] brought home the sense of entitlement and "free" that seems so rampant today. As a design professional for over 20 years, I have seen a distinct change in people's attitudes about value and ownership of one's work since the advent of the Internet.

Regardless of your industry, work has value, and the creators of such work should be compensated fairly.

Lisa Wendt, via email

I don't like to pay for stuff if I don't know what I'm buying. So the way I see it, the lack of a brief trial period for apps is a much bigger issue for the app economy

than apps being too cheap. If apps came with a short trial period, I would definitely buy more of them. Now I rarely bother, because I don't want to pay for something that I may never use.

Patrick S., via email

Your story was very insightful, but you left out one important aspect of free apps: the ads and what the developers make from showing those ads. I have no idea and would love to know why that doesn't make up for the lack of a \$1 payment.

Dudley Johnson, via email

My iPhone screen is way too small for the "deeper experience" Lex Friedman

WHICH WWDC ANNOUNCEMENTS INTEREST YOU MOST?

Here's what readers are looking forward to this fall.

@MarquetteLa: Control Center in iOS 7, by far.

@F59PHI450: OS X Mavericks. Thinking of getting a second display for my iMac because of the upcoming operating system's improved support.

@cameramantaz: The new iOS design. It looks really vibrant, fresh! It appears that Apple is finally flexing the muscles of the iPhone 5's A6 processor!

refers to, irrespective of how fancy a developer makes an app. I've bought a few paid apps, and I failed to see any benefit. I spend far too much time working to worry about game playing, on either of my iOS devices. A quick turn of Words With Friends, before bedtime, is about all I have time for.

Rick Cunningham, via email

THE PRO EXPERIENCE

My biggest worry about the Mac Pro ["The New Mac Pro: What We Wanted, What We're Actually Getting"; go.macworld.com/newmacpro] is that it will be too expensive, and will be hard to upgrade. My circa-2006 Mac Pro's processor is still fine, and I have vastly expanded the RAM, bought the best video card Apple has to offer, and now have three hard drives that put the original to shame. Am I supposed to take out a loan to get the absolute best Mac Pro so that I'm not limited? I don't know that I consider that an acceptable option.

archangel1701, via Macworld.com

All reader communications to Macworld—through mail, email, our social networking accounts, and our online forums—are presumed to be intended for publication. We reserve the right to edit them.

THROUGH THE LENS: POPCORN AND A MOVIE

Apple may not have announced a full-featured TV at this year's Worldwide Developers Conference, but reader Frank Perez's children and nephews seem to be getting along just fine watching movies on a MacBook Pro.

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News and Analysis About Macs, OS X, and Apple



Haswell Boosts MacBook Air's Performance

The latest Intel chip has improved the new MacBook Air's speed and endurance.

BY JAMES GALBRAITH

Review

RATING
★★★★½

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Most of the products Apple announced at the Worldwide Developers Conference in June won't ship until later this year, but the new MacBook Air is here. It didn't undergo a dramatic, Mac Pro–like redesign. Even compared with last year's MacBook Air—which brought Thunderbolt and USB 3.0—this new Air is more evolutionary than revolutionary.

Under the Hood

The biggest change is the inclusion of Intel's latest generation of Core processors, code-named Haswell. These fourth-generation Core processors replace the Ivy Bridge chips in last year's MacBook Air. The Haswell processors require less

power than Ivy Bridge, a change that improves battery life in portable computers like the MacBook Air. Haswell also includes new integrated graphics technology in the form of the Intel HD Graphics 5000, which Apple says provides 40 percent higher performance than the HD Graphics 4000 in Ivy Bridge processors.

This year's MacBook Air models support the new 802.11ac wireless networking standard (see page 14). Apple also improved the flash storage, with higher capacities on the 11-inch models and faster performance across the line.

Apple sells four standard configurations of the new MacBook Airs, two with 11-inch displays and two using 13-inch displays. All four have the same dual-core 1.3GHz Core i5 processor, which can reach speeds of up to 2.6GHz with Turbo Boost and can act as a virtual quad-core processor thanks to

Hyper-Threading. All four versions have the aforementioned Intel HD Graphics 5000 and 4GB of 1600MHz LPDDR memory, which cannot be upgraded.

The difference between the two models of each screen size is the capacity of the solid-state storage. The 11-inch MacBook Airs come with either 128GB of flash storage for \$999 or 256GB of flash storage for \$1199. The 13-inch models come with the same 128GB and 256GB capacities for \$1099 and \$1299, respectively.

Luckily, Apple offers optional upgrades at the time of purchase that double the flash-storage capacity to 512GB for a pricey \$300, and double the amount of RAM to 8GB for \$100.

External Features

The only external clues to differentiate between the 2013 MacBook Air models

PHOTOGRAPHY BY PETER BELANGER (TOP) AND ROBERT CARDIN (RIGHT)

and the 2012 editions are the two tiny holes for the new Air's two microphones, located near the audio port. Previous Airs had just one microphone. The second microphone is designed to help improve sound quality.

The new MacBook Airs use the same glossy, LED-backlit displays as the 2012 models and run at the same respective resolutions—they're not Retina displays.

All MacBook Airs have one Thunderbolt port for adding monitors and/or external storage, and two USB 3.0 ports, one on each side. All Airs have 720p FaceTime cameras and built-in speakers. The 13-inch models include a handy SDXC card slot.

While the improvements in the new MacBook Air are mostly subtle, they succeed in making an already excellent product even more desirable.

Performance

With all four MacBook Airs sharing so many of the same specifications, it's no surprise that the 256GB 11-inch MacBook Air and 128GB 13-inch MacBook Air we tested performed almost identically.

Comparing the results from the 2013 systems with the 2012 MacBook Air results, we found that the new HD Graphics 5000 outperformed the HD Graphics 4000 by as much as 24 percent on the 11-inch models and 30 percent on the 13-inch MacBook Airs. The new, faster flash storage in the 2013 models helped the new systems best their predecessors in our 6GB file-copy tests by 28 percent on the 13-inch laptop and a very impressive 50 percent on the 11-inch Air. Faster flash also contributes to reduced startup times; the new 13-inch Air

took around 14 seconds to start up, versus 18 seconds for last year's model.

The Haswell processors in these new MacBook Airs are running at a slower clock speed than the Ivy Bridge processors in the 2012 models do. The 2012 13-inch, 1.8GHz Ivy Bridge MacBook Air was faster than this year's 13-inch, 1.3GHz Haswell MacBook Air in 8 of our 14 tests, including our folder compression, iMovie, iPhoto, Photoshop, Aperture, and MathematicaMark 7 tests. But the speedier graphics and faster flash storage in the newer MacBook Air were enough to result in the two generations' earning identical Speedmark 8 scores.

One of the key benefits of the Haswell processors is reduced power consumption and, therefore, longer battery life. Apple claims up to 9 hours for the 11-inch model and up to 12 hours on the 13-inch, versus 5 and 7 hours previously.

Bottom Line

The new MacBook Air has a lot in common with its predecessor in terms of features and look and feel. While the improvements are mostly subtle, they succeed in making an already excellent product even more desirable. Under-the-hood improvements to the integrated graphics and flash storage help to boost performance, while enhancements found in the new Haswell processors help to improve battery life.

New MacBook Air Offers Great Battery Life

While the Macworld Lab didn't experience the 12-hour battery life Apple cites, our tests did show that the new MacBook Air lasts considerably longer than its predecessor. We ran two different tests on the new models, last year's models, and a 2013 13-inch Retina MacBook Pro.

In the first test, we looped a movie clip in full-screen mode with Wi-Fi disabled. The new 11-inch MacBook Air lasted 6 hours, 6 minutes, in contrast to 3 hours, 34 minutes for the 2012 version. The new 13-inch MacBook Air model lasted 8 hours, 18 minutes, or 36 percent longer than the new 11-inch model, and 65 percent longer than last year's 13-inch model. Compared with the 2013 13-inch Retina MacBook Pro, the 13-inch MacBook Air lasted 75 percent longer.

We also ran the tests on configure-to-order (CTO) MacBook Air models from this year and from last year. We didn't see much of a battery-life hit on the new CTO model compared with the standard configuration. But compared with last year's CTO model, the new one lasted 65 percent longer.

The second set of tests used Futuremark's free Peacekeeper browser test, which has an option to run the online test repeatedly and report the time at which the system being tested stops responding. The new 13-inch standard-configuration model lasted the longest at 5 hours, 45 minutes. It also lasted 41 percent longer than the new 11-inch model and 25 percent longer than the new CTO MacBook Air. The new standard-configuration 13-inch Air lasted 63 percent longer than last year's 13-inch MacBook Air.

The increased battery life is the result of more battery capacity. The new MacBook Air has also switched from Intel's Ivy Bridge Core processors to Haswell processors, and a key difference between the chips is decreased power consumption, which results in increased battery life on portables. —JAMES GALBRAITH



New MacBook Air
Now with better flash storage and graphics performance.

How 802.11ac Networking Improves the MacBook Air's Wi-Fi Efficiency

BY MICHAEL BROWN



One exciting aspect of the new MacBook Air release is the prospect of greater Wi-Fi speed and perfor-

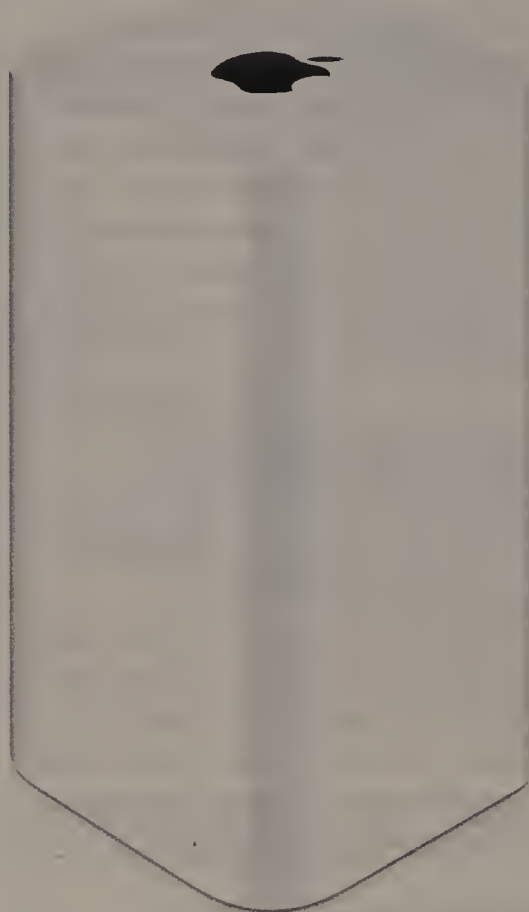
mance. That's because Apple's updated laptop sports built-in compatibility with the newest draft networking standard, 802.11ac, an upgrade of the current 802.11n standard. That draft standard (established by the Institute of Electrical and Electronics Engineers) is also built into Apple's newly released AirPort Extreme Base Station and AirPort Time Capsule hard drive.

New Radio Spectrum

Here's what makes this new technology so fast: The 802.11ac standard uses the unlicensed 5GHz radio spectrum, which is considerably less crowded than the 2.4GHz spectrum, where devices ranging from cordless phones and baby monitors to microwave ovens can stomp all over your network. What's more, the 5GHz spectrum provides many more available channels: 21 nonoverlapping channels in the United States versus only 11 in the 2.4GHz spectrum (and only 3 of those 11 channels don't overlap).

The 802.11n standard uses channels with 20MHz of bandwidth on the 2.4GHz frequency band and channels with 40MHz of bandwidth on the 5GHz band. In contrast, the 802.11ac standard uses a channel with 80MHz of bandwidth.

Operating in the 5GHz spectrum isn't the only factor that makes the 802.11ac standard so attractive. Networks based on this standard also carry more data, thanks to its more robust encoding scheme. An 802.11n network using a 20MHz-wide channel can transmit data at 75 mbps over a single spatial stream, 150 mbps over two spatial streams, or 225 mbps using three spatial streams. An 802.11n network using a 40MHz-wide



Networking Efficiency The new Wi-Fi standard is also built into Apple's recently released AirPort Extreme Base Station.

The new 802.11ac standard uses the unlicensed 5GHz radio spectrum, which is considerably less crowded than the 2.4GHz spectrum.

channel can double those numbers. But an 802.11ac network using an 80MHz-wide channel can deliver even higher throughput: 433 mbps over a single spatial stream, 867 mbps over two, and 1.3 gbps over three spatial streams.

Apple's Antenna Arrays

To aid networking efficiency, Apple's new AirPort Extreme and AirPort Time Capsule also use beamforming antenna arrays. Beamforming is an optional element of the 802.11ac standard. Previ-

ous 802.11n products broadcast their signals in an omnidirectional fashion—in concentric rings, like the ripples that a stone tossed into a pond creates. A beamforming router actively exchanges information with its clients to determine the optimal path for signals to travel.

The AirPort Extreme features simultaneous dual-band 802.11ac Wi-Fi, transmitting at both the 2.4GHz and 5GHz frequencies at the same time. Regardless of which band your wireless devices use, they will automatically connect to the faster available band.

The biggest drawback of the 5GHz spectrum is its shorter range (the higher a signal's frequency, the shorter its range). On the other hand, since the 802.11ac standard packs so much data into its signal, the 802.11ac routers that we have tested have shown themselves capable of delivering more than twice as much throughput as 802.11n routers operating on the 2.4GHz frequency band.

While the IEEE is unlikely to ratify the final 802.11ac standard until early next

year, routers and Wi-Fi adapters based on the draft version have been on the market since last summer. So even if you prefer not to buy a new AirPort Base Station or Time Capsule, no problem. Just about every manufacturer in the wireless networking market—including Asus, Belkin, Buffalo, D-Link, Netgear, Trendnet, and Western Digital—is shipping an 802.11ac router, bridge, and/or USB adapter. You simply need to find a Mac-compatible model to work with your new MacBook Air.

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VIAGRA is prescription medication to treat erectile dysfunction (ED). If you don't have a prescription, talk to your doctor to see if VIAGRA is right for you.

IMPORTANT SAFETY INFORMATION BELOW.

Do not take VIAGRA if you take nitrates, often prescribed for chest pain, as this may cause a sudden, unsafe drop in blood pressure.

Discuss your general health status with your doctor to ensure that you are healthy enough to engage in sexual activity. If you experience chest pain, nausea, or any other discomforts during sex, seek immediate medical help.

In the rare event of an erection lasting more than 4 hours, seek immediate medical help to avoid long-term injury.

If you are older than age 65, or have serious liver or kidney problems, your doctor may start you at the lowest dose (25 mg) of VIAGRA. If you are taking protease inhibitors, such as for the treatment of HIV, your doctor may recommend a 25-mg dose and may limit you to a maximum single dose of 25 mg of VIAGRA in a 48-hour period. If you have prostate problems or high blood pressure for which you take medicines called alpha blockers, your doctor may start you on a lower dose of VIAGRA.

In rare instances, men taking PDE5 inhibitors (oral erectile dysfunction medicines, including VIAGRA) reported a sudden decrease or loss of vision or hearing. It is not possible to determine whether these events are related directly to these medicines or to other factors. If you experience sudden decrease or loss of vision or hearing, stop taking PDE5 inhibitors, including VIAGRA, and call a doctor right away.

VIAGRA should not be used with other ED treatments. VIAGRA should not be used with REVATIO or other products containing sildenafil.

VIAGRA does not protect against sexually transmitted diseases, including HIV.

The most common side effects of VIAGRA are headache, facial flushing, and upset stomach. Less commonly, bluish vision, blurred vision, or sensitivity to light may briefly occur.

Please see Important Facts for VIAGRA on the following page or visit viagra.com for full prescribing information.

*There might be an additional shipping and handling surcharge to ship orders outside the 48 contiguous states.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.FDA.gov/medwatch or call 1-800-FDA-1088.

The blue diamond tablet shape is a registered trademark of Pfizer Inc.

IMPORTANT FACTS



VIAGRA[®]
(sildenafil citrate) tablets

(vi-AG-rah)

IMPORTANT SAFETY INFORMATION ABOUT VIAGRA

Never take VIAGRA if you take any medicines with nitrates. This includes nitroglycerin. Your blood pressure could drop quickly. It could fall to an unsafe or life-threatening level.

ABOUT ERECTILE DYSFUNCTION (ED)

Erectile dysfunction means a man cannot get or keep an erection. Health problems, injury, or side effects of drugs may cause ED. The cause may not be known.

ABOUT VIAGRA

VIAGRA is used to treat ED in men. When you want to have sex, VIAGRA can help you get and keep an erection when you are sexually excited. You cannot get an erection just by taking the pill. Only your doctor can prescribe VIAGRA.

VIAGRA does not cure ED.

VIAGRA does not protect you or your partner from STDs (sexually transmitted diseases) or HIV. You will need to use a condom.

VIAGRA is not a hormone or an aphrodisiac.

WHO IS VIAGRA FOR?

Who should take VIAGRA?

Men who have ED and whose heart is healthy enough for sex.

Who should NOT take VIAGRA?

- If you ever take medicines with nitrates:
 - Medicines that treat chest pain (angina), such as nitroglycerin or isosorbide mononitrate or dinitrate
- If you use some street drugs, such as “poppers” (amyl nitrate or nitrite)
- If you are allergic to anything in the VIAGRA tablet

BEFORE YOU START VIAGRA

Tell your doctor if you have or ever had:

- Heart attack, abnormal heartbeats, or stroke
- Heart problems, such as heart failure, chest pain, angina, or aortic valve narrowing
- Low or high blood pressure
- Severe vision loss
- An eye condition called retinitis pigmentosa
- Kidney or liver problems
- Blood problems, such as sickle cell anemia or leukemia
- A deformed penis, Peyronie’s disease, or an erection that lasted more than 4 hours
- Stomach ulcers or any kind of bleeding problems

Tell your doctor about all your medicines. Include over-the-counter medicines, vitamins, and herbal products. Tell your doctor if you take or use:

- Medicines called alpha-blockers to treat high blood pressure or prostate problems. Your blood pressure could suddenly get too low. You could get dizzy or faint. Your doctor may start you on a lower dose of VIAGRA.
- Medicines called protease inhibitors for HIV. Your doctor may prescribe a 25 mg dose. Your doctor may limit VIAGRA to 25 mg in a 48-hour period.
- Other methods to cause erections. These include pills, injections, implants, or pumps.
- A medicine called REVATIO. VIAGRA should not be used with REVATIO as REVATIO contains sildenafil, the same medicine found in VIAGRA.

POSSIBLE SIDE EFFECTS OF VIAGRA

Side effects are mostly mild to moderate. They usually go away after a few hours. Some of these are more likely to happen with higher doses.

The most common side effects are:

- Headache
- Feeling flushed
- Upset stomach

Less common side effects are:

- Trouble telling blue and green apart or seeing a blue tinge on things
- Eyes being more sensitive to light
- Blurred vision

Rarely, a small number of men taking VIAGRA have reported these serious events:

- Having an erection that lasts more than 4 hours. If the erection is not treated right away, long-term loss of potency could occur.
- Sudden decrease or loss of sight in one or both eyes. We do not know if these events are caused by VIAGRA and medicines like it or caused by other factors. They may be caused by conditions like high blood pressure or diabetes. If you have sudden vision changes, stop using VIAGRA and all medicines like it. Call your doctor right away.
- Sudden decrease or loss of hearing. We do not know if these events are caused by VIAGRA and medicines like it or caused by other factors. If you have sudden hearing changes, stop using VIAGRA and all medicines like it. Call your doctor right away.
- Heart attack, stroke, irregular heartbeats, and death. We do not know whether these events are caused by VIAGRA or caused by other factors. Most of these happened in men who already had heart problems.

If you have any of these problems, stop VIAGRA. Call your doctor right away.

HOW TO TAKE VIAGRA

Do:

- Take VIAGRA only the way your doctor tells you. VIAGRA comes in 25 mg, 50 mg, and 100 mg tablets. Your doctor will tell you how much to take.
- If you are over 65 or have serious liver or kidney problems, your doctor may start you at the lowest dose (25 mg).
- Take VIAGRA about 1 hour before you want to have sex. VIAGRA starts to work in about 30 minutes when you are sexually excited. VIAGRA lasts up to 4 hours.

Don’t:

- Do not take VIAGRA more than once a day.
- Do not take more VIAGRA than your doctor tells you. If you think you need more VIAGRA, talk with your doctor.
- Do not start or stop any other medicines before checking with your doctor.

NEED MORE INFORMATION?

- This is only a summary of important information. Ask your doctor or pharmacist for complete product information OR
- Go to www.viagra.com or call (888) 4-VIAGRA (484-2472).



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Apple Opts for Change a Decade After the G5

The new Mac Pro comes out of the shadows of the Power Mac G5.

BY BENJ EDWARDS

Ten years ago, Apple introduced the Power Macintosh G5, the first of a new generation of Macs based on IBM's PowerPC G5 architecture. Unveiled during the 2003 WWDC, the G5 replaced the aging Power Mac G4 and carried the banner for the Mac market until Apple released the Intel-based Mac Pro in 2006.

At the time of the G5's debut, Apple claimed it was the "world's fastest personal computer," a controversial statement that held up with mixed success in lab tests at the time of its release. But it was fast, no doubt, and capable: The high-end model shipped with dual 2GHz CPUs, and as Apple's first 64-bit computer, the Power Mac G5 could utilize up to 8GB of RAM. To add extra oomph, each of the three introductory G5 models featured a front-side bus clocked at half the CPU clock rate, including an astoundingly speedy 1GHz FSB for the 2GHz model.

Aside from its 64-bit CPU, the Power Macintosh G5 debuted a few other firsts for the Mac platform. It was the first Mac to have Serial ATA hard drives, which provided a significant speed advantage over their parallel cousins. It was also Apple's first computer to include USB 2.0 ports.

Design Origins

The Power Macintosh G5 was Apple's first computer to ship in an aluminum enclosure. The anodized chassis sported a sleek, monolithic design. At 20.0 by 8.1 by 18.7 inches in dimension, the Power Mac G5 remains one of the tallest and largest Macs that Apple has ever produced. The 39-pound beast was also one of the heaviest sans-CRT Macs ever made.

Keeping It Cool

For such an excess of volume, you would think the G5 would contain an excess of

expansion potential. In fact, most of the case was dedicated to heat dissipation.

Apple spent a large portion of the Power Mac G5's 2003 introductory keynote explaining how it engineered around the PowerPC G5 CPU's hotplate nature with four separate "thermal zones" and no fewer than nine internal cooling fans that, if run together, sounded not dissimilar to a jet taking off when things got a bit too toasty. That Apple's engineers had to bend over backward and upside down to accommodate the thermal profile of IBM's G5 processor must have been powerful evidence for Apple's executive staff that

Think about it: Ten years of the same design in Apple-Land is pretty much unheard of. The design must have served Apple very well.

the company had to change direction in CPU architecture—as it did three years later with the switch to Intel CPUs.

But in between all that G5 cooling apparatus, Apple did find room inside the Power Mac's case for a single 5.25-inch bay, two 3.5-inch hard-drive bays, and eight DIMM slots for RAM. For internal expansion, the initial G5 systems included one 133MHz 64-bit PCI-X slot and two 100MHz 64-bit PCI-X slots. By modern standards, that's a surprisingly inefficient use of space: three bays and three slots in a case that could swallow 36 modern Mac Minis in cubic volume. But such was the price for appeasing the G5 heat monster.

Over the next three years of its life span, the Power Macintosh G5 continued on to bigger and hotter heights, increasing clock speed and memory until it maxed out in late 2005 with a model containing two dual-core 2.5GHz PowerPC 970MP CPUs and a liquid cooling system.



From Power Mac to Mac Pro

By then it was painfully obvious that the PowerPC architecture, which had failed to break the promised 3GHz barrier for over two years, was proving too limiting for Apple. In 2006, Apple unveiled the previously unthinkable: Intel-based Macs.

But even after that switch to Intel, one thing remained the same: Apple's then-new Mac Pro retained the dimensions and general exterior design of the Power Mac G5. Only now, a decade after the G5's introduction, is Apple finally ditching the aluminum beast for a mysterious dark cylinder—the 2013 Mac Pro.

Think about it: Ten years of the same design in Apple-Land is pretty much unheard of. The design must have served Apple very well—as well, at least, as it did the millions of professional users who have worked with the Power Mac G5 and its spiritual descendants over the previous decade. Happy birthday, G5.

Apple Celebrates Innovative Apps

The 2013 Apple Design Awards commended 11 well-designed apps, ranging from fun and addictive games to excellent productivity tools.

BY DANIEL IONESCU

Every year during the Worldwide Developers Conference, Apple recognizes new, especially innovative apps. This year's Apple Design Awards winners consist of a mix of fun games and some useful productivity apps, along with a couple of cool apps from student developers.

WWF Together

Apple commended the World Wildlife Fund's iPad app—WWF Together—for its attention to detail and beautiful aesthetics, as well as for its original music.

The WWF Together app tells the stories of different endangered species, including pandas, tigers, and polar bears, through photos and illustrations. (Free, iPad)

Badland

Badland is an atmospheric side-scrolling action-adventure platform game that incorporates novel, physics-based gameplay along with beautiful Retina graphics and high-quality audio.

In single-player campaigns, you have 50 unique levels to explore. Or you can try the multiplayer mode, which allows up to four friends to play through 16 levels using the same device.

Apple commended Badland's production values as well as the app's integration with Game Center and iCloud. (\$4, iPhone and iPad)

Procreate

An art-studio app for iPad-toting artists, Procreate is packed with an assortment of 48 brushes, including pencils, inks, and digital-only tools.

Procreate runs on a proprietary engine called Silica, which renders strokes with 64-bit precision. It also has blend and decay brushes that you can use in real time. You can preview the brushes before



buying them with in-app purchases, as well as share your art with Photoshop or on social media. (\$5, iPad)

Yahoo Weather

Yahoo's new Weather app stands out from the crowd with its beautiful visual design. The app also uses Flickr photography to match the current weather conditions of any specific location.

And if not for that smart photo-matching capability, you could say that Apple was inspired by this app when it redesigned its own Yahoo-powered Weather app for iOS 7 (see page 37). (Free, iPhone and iPad)

Letterpress

Deceptively simple but strangely addictive, Letterpress garnered an award from Apple for its unique blend of entertainment and strategy. Simple gestures and subtle animation make this letter game a lot of fun for players. Incorporating Game Center and in-app purchases, Letterpress is an iOS exclusive. (Free, iPhone and iPad)

Ridiculous Fishing

This game takes you through an infinite arcade world where you fish with weapons, chainsaws, toasters, and other wacky utensils. It sports a distinctive retro style and keeps players engaged with physics-based gameplay, plus a dash of humor and a generous helping of fun.

The game offers no in-app purchases but does give you ready access to several hours of gameplay across different continents as you follow the game's main character, Billy, on his quest for redemption. (\$3, iPhone and iPad)

Sky Gamblers: Storm Raiders

In Sky Gamblers: Storm Raiders, you travel to an arcade-style game world set during



World War II, where you take part in dogfights, protect ships, and attack enemy bases. The game features a huge selection of planes from historic WWII fleets. You can play with your friends in either cooperative mode or competitive mode, and you can also beam the game to your TV via AirPlay—if you have an Apple TV. (\$1, iPhone and iPad)

Evernote

Apple recognized Evernote (see page 52) for its ability to keep notes organized and synced across iPhones, iPads, and Macs. The app lets you store notes, photos, to-dos, voice memos, and even sketches and drawings with free companion apps such as Penultimate and Skitch; you can also keep track of your contacts with Hello, and record your culinary experiences with Food. (Free, iPad, iPhone, and Mac)

Finish

Finish is a to-do app developed by Ryan Orbuch and Michael Hansen while they

were sophomores at Boulder High School in Colorado.

Their task-manager app, which uses gestures to break up your to-dos into short-, medium-, and long-term tasks, integrates with Facebook and Twitter, where you can share your tasks with colleagues. (\$1, iPhone)

Mosaic.io

Another iOS exclusive, Mosaic.io was developed by self-taught developers and MIT students Ishaan Gulrajani and Alex List and University of Pittsburgh student Zain Shah.

The app connects two or more iPhones or iPads around a single image to create a photo mosaic, using each device’s relative position to another. (Free, iPhone and iPad)

Coda 2

Coda is a wide-ranging Web development editor. It offers a tabbed interface that lets you write and edit HTML and



other code, create and modify CSS, perform command-line work, generate live previews, look up code references, and transfer files back and forth via SFTP, FTP, or WebDAV—all within a single app. (\$75, Mac)—LEX FRIEDMAN

Macs: Current Lineup

PRODUCT	SPECS	RATING	PRICE	DISPLAY	SPEEDMARK 8	MORE INFO
DESKTOP						
	Intel Core i5/2.7GHz (quad-core)	★★★★	\$1299	21.5 inches	194	go.macworld.com/imac212712
	Intel Core i5/2.9GHz (quad-core)	★★★★	\$1499	21.5 inches	204	go.macworld.com/imac212912
	Intel Core i5/2.9GHz (quad-core)	★★★★	\$1799	27 inches	238	go.macworld.com/imac272912
	Intel Core i5/3.2GHz (quad-core)	★★★★	\$1999	27 inches	224	go.macworld.com/imac273212
	Intel Core i5/2.5GHz (dual-core)	★★★★	\$599	Not included	131	go.macworld.com/min2512
	Intel Core i7/2.3GHz (quad-core)	★★★★	\$799	Not included	164	go.macworld.com/min2312
	Intel Xeon/3.2GHz (quad-core)	★★★★	\$2499	Not included	200	go.macworld.com/macpro3212
	Intel Xeon/2.4GHz (12-core)	★★★★	\$3799	Not included	215	go.macworld.com/macpro2412
PORTABLE						
	Intel Core i5/1.3GHz, 128GB	★★★★	\$999	11 inches	165	go.macworld.com/air1281113
	Intel Core i5/1.3GHz, 256GB	★★★★	\$1199	11 inches	165	go.macworld.com/air2561113
	Intel Core i5/1.3GHz, 128GB	★★★★	\$1099	13 inches	166	go.macworld.com/air1281313
	Intel Core i5/1.3GHz, 256GB	★★★★	\$1299	13 inches	166	go.macworld.com/air2561313
	Intel Core i5/2.5GHz (dual-core)	★★★★	\$1199	13 inches	121	go.macworld.com/macbook132512
	Intel Core i7/2.9GHz (dual-core)	★★★★	\$1499	13 inches	153	go.macworld.com/macbook132912
	Intel Core i7/2.3GHz (quad-core)	★★★★	\$1799	15 inches	161	go.macworld.com/macbook152312
	Intel Core i5/2.5GHz (dual-core) 128GB	★★★★	\$1499	13-inch Retina	184	go.macworld.com/macbookret13128
	Intel Core i5/2.6GHz (dual-core) 256GB	★★★★	\$1699	13-inch Retina	190	go.macworld.com/macbookret132613
	Intel Core i7/2.4GHz (quad-core)	★★★★	\$2199	15-inch Retina	270	go.macworld.com/macbookret152413
	Intel Core i7/2.7GHz (quad-core)	★★★★	\$2799	15-inch Retina	284	go.macworld.com/macbookret152713

¹Speedmark 8 is Macworld Lab’s standard test tool for benchmarking systems running Mac OS X 10.8 (Mountain Lion). For more information, see [http://www.macworld.com/speedmark8](#).

Mac Gems

Discover Great, Low-Cost Mac Products **Edited by Dan Frakes**

UTILITY

Keyboard Maestro 6.0

★★★★; \$36; Stairways Software; keyboardmaestro.com

Many users whose relationship with the Mac predates OS X retain an affection for macro utilities—applications that let you string together a series of actions to automate repetitive tasks, and summon

those macros with a click or a key press.

Keyboard Maestro is one of the best, and the workflow in the latest version remains simple. The macro editor has three columns. The first includes any macro groups you've created and the All Macros group. The second displays all macros in the selected group. The third column details the actions included in the selected macro. When you create a new macro, the third column becomes the editing area, where you add actions and configure triggers.

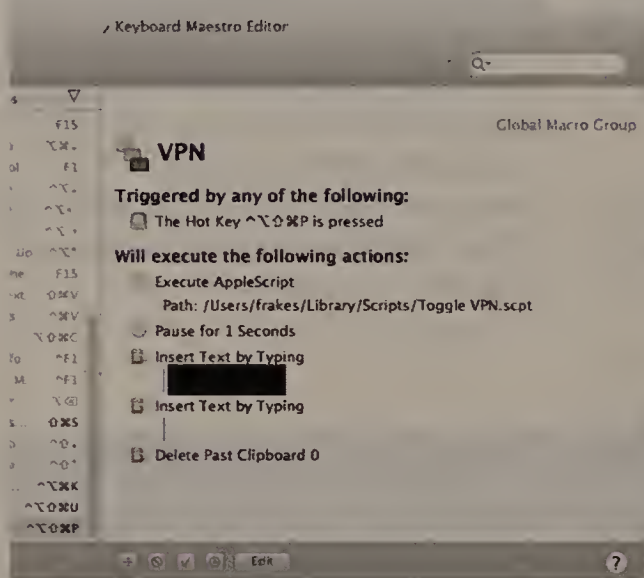
You can classify Keyboard Maestro's new features in two ways: niceties and improved functionality. Among the niceties, I'd include macro syncing between Macs, support for Retina graphics, the ability

to assign icons to macros and macro groups, a customizable status icon, a debugger that lets you walk through your actions to look for problems, and the power to trigger a macro by typing its name.

As for improved functionality, you can now configure a macro to execute when you plug in or disconnect a particular USB device. You can also have Keyboard Maestro fire off a macro whenever you connect to a particular wireless network.

To me, one of Keyboard Maestro's most appealing new features is that it now offers Safari and Chrome actions. As a result, you can use it to fill in and submit Web-based forms.

If you find yourself doing the same things over and over, you owe it to yourself to try Keyboard Maestro. You'll be amazed at the time you save.—CHRISTOPHER BREEN



UTILITY

iStat Menus 4.0.5

★★★★; \$16; Bjango; bjango.com

It pays to know what's going on inside your Mac. To that end, almost no piece of software does what iStat Menus 4.0.5 achieves: It offers full monitoring of your system's CPU, RAM, and disk usage; network activity; component temperatures; fan speeds; Bluetooth functionality; and international dates and times.

You can also customize the application, which resides in your menu bar, to display information about the specific components that you'd like to watch.

iStat Menus offers generous portions of valuable technical information in a readily digestible format. A quick click on the temperature-sensor module, for instance,

reveals the temperatures for each element of your computer, down to components such as the CPU cores, your MacBook's palm rest and battery, and so on.

The utility can also display historical data as a chart that allows you to see exactly how each component in your Mac has performed over time.

Where the program truly shines is in its user interface. Click the network module, and you can see your current IP address as well as useful tidbits such as your upstream- and downstream-data speeds. Click the hard-drive module, and you can quickly determine how much storage is used or available on each of your Mac's

mounted volumes, as well as each supported drive's current S.M.A.R.T. status. This single click saves you a trip to a Get Info window or the Disk Utility application.

Overall, iStat Menus is a standout application for continuous hardware-level monitoring of your Mac.—CHRIS BARYLICK



PRODUCTIVITY

Highland 1.0.2

★★★★; \$20; Quote-Unquote Apps; quoteunquoteapps.com

Writing a script is fun. Formatting a script? Less so. Many an idea can be squashed when you're focused on making sure your character headers are properly centered.

Enter Highland, an app that uses the Markdown-inspired Fountain syntax to offer screenwriters a simpler, cleaner place to bring their characters to life.

Highland's big appeal comes not just from its minimalist writing interface, but also its conversion capabilities. The app can import a text-based PDF or FDX (Final Draft) file and translate it into editable Fountain text without losing your initial formatting. You can likewise export a Fountain file to a PDF or FDX file once you're ready for an initial reading or more-advanced formatting.

I tested Highland's import process on several screenplays—both Final Draft and PDF files—and I was pretty pleased with the results. The app translated most of the scripts to Fountain flawlessly.

Highland, however, can't process certain

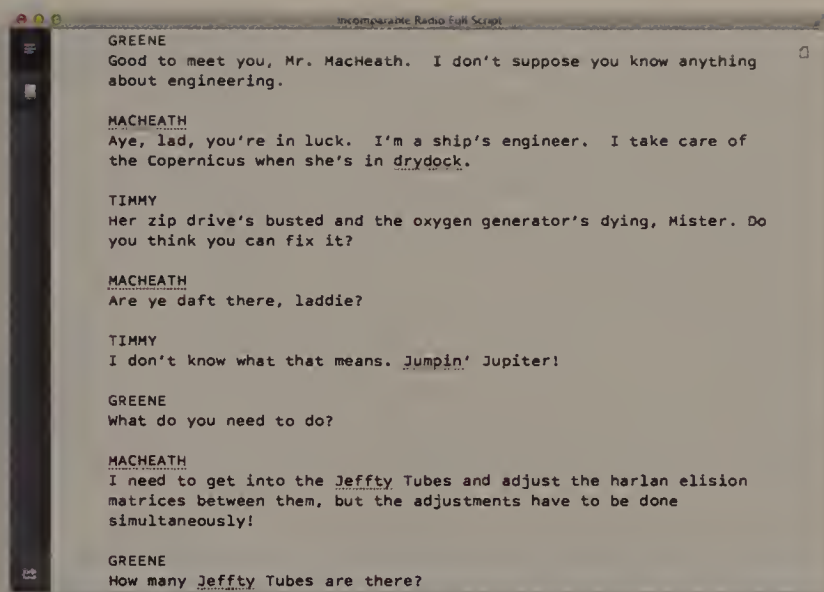
types of imports. It can't import PDFs where the text is embedded in images. It also can't import starred revisions, A/B pages, and other advanced options present in Final Draft files.

Once you've imported your script, writing and editing in Highland is a pleasure. It has only four buttons in the window—Jump to Page, Edit mode, Preview mode, and Share/Export—leaving the rest of the window bare to help you focus.

Highland doesn't include iCloud support, though. If you want to sync your scripts between devices, you'll have to use a

third-party sync service such as Dropbox.

I liked working with Highland. I personally don't need an app as full-featured as Final Draft for my script snippets, but I appreciate being able to export my words into other formats for people who may be editing or viewing them.—SERENITY CALDWELL



SOCIAL NETWORKING

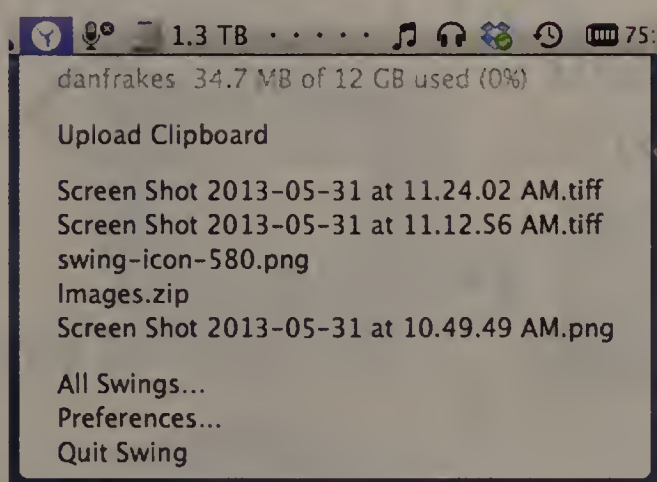
Swing 1.0.2

★★★★; \$8; Orangutango; orangutango.com

App.net (ADN) is a relatively new online service that many people think of as just an alternative to Twitter. But ADN also offers a number of other services, including a place to store and share files.

App.net's file storage is designed to be app-neutral—you can access and manage your storage from any app or service that uses the App.net File API. The most common use of this storage is for sharing files—photos, videos, PDFs, and more. You can use your ADN storage to share files anywhere: email, IM, and even on other social-media services.

The easiest way to do this is by using a dedicated Mac app, and my current favorite is Swing. If you have a file you want to share, you just drag and drop the item onto Swing's systemwide menu icon. When the



upload finishes, you hear a confirmation sound and see a Notification Center alert. Even better, the direct URL to that upload is copied to the clipboard. Swing also provides a couple other ways to upload files. If you've copied a file to the clipboard,

you can choose *Upload Clipboard* from the Swing menu; alternatively, you can **<Control>**-click an item in the Finder and choose *Upload With Swing* from the contextual menu's Services submenu.

Swing's systemwide menu also shows your current ADN-storage usage, along with a list of the five most-recently uploaded files. Another useful Swing option automatically uploads any screen-shots you take on your Mac.

If you frequently use social media, there's a good chance you share files and images in your messages, and Swing makes it easier to do so. And even if you don't use App.net for Twitter-like messages, the file storage can come in handy.—DAN FRAKES

COMMUNICATION

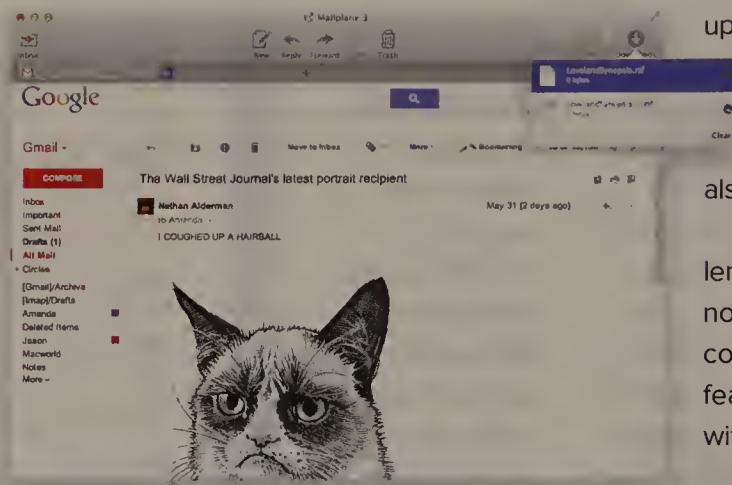
Mailplane 3.0

★★★★; \$25; Uncomplex; mailplaneapp.com

Mailplane 3 beautifully transforms Google's webmail service into a full-fledged desktop app, with an impressive interface and well-thought-out features. Not only does it work flawlessly with Gmail's recent interface updates, but it's also considerably more polished in its look and feel than the previous versions of Mailplane.

Like its predecessor, Mailplane 3 ties Gmail neatly into the rest of the Mac OS. You can import up to ten different accounts, use Mac-friendly keyboard shortcuts, and add recipients to a new message by picking from your contacts.

Mailplane 3's refinements include a tabbed interface: Instead of switching clunkily between one account and the next, you can work with as many Gmail accounts as you like simultaneously, each



in its own tab within the Mailplane window. Mailplane 3 adds support for Google Calendar in those tabs, as well.

A Safari-style Downloads window lets you keep track of attached files you've retrieved from your mail. When you need to

upload an attachment, Mailplane offers to resize images from your Mac in small, medium, or large format. Setup is also quick and fairly easy.

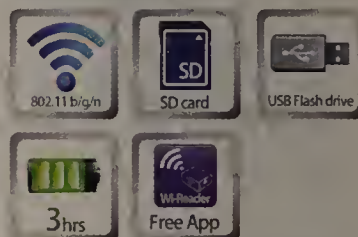
Mailplane presents an excellent systemwide menu for notifications of new messages, complete with a Do Not Disturb feature. The app also integrates with OS X's Notification Center.

I liked working with Mailplane 3—it's the most polished and useful Gmail client I've tested. If you choose to drop \$25 on it, you'll get a very good program. But if you don't place a lot of value on the features a native OS X app provides, you may be just as happy sticking with Gmail in the browser.—NATHAN ALDERMAN

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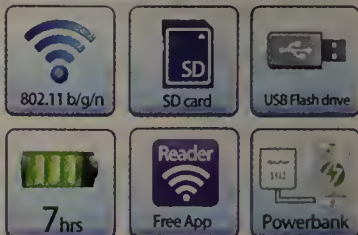
Designed for iOS Android



For more information, on youtube.

Available on the App Store

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PRODUCTIVITY

Scapple 1.0

👤👤👤; \$15; Literature and Latte; literatureandlatte.com

Literature and Latte's Scapple is a unique amalgamation of productivity tools. The developers describe it as a free-form, nonlinear, mind-mapping text editor.

The app starts you off with a blank canvas. Double-click anywhere to add a new note. To connect notes, simply drag and drop one onto the other. You can also stack notes to form lists.

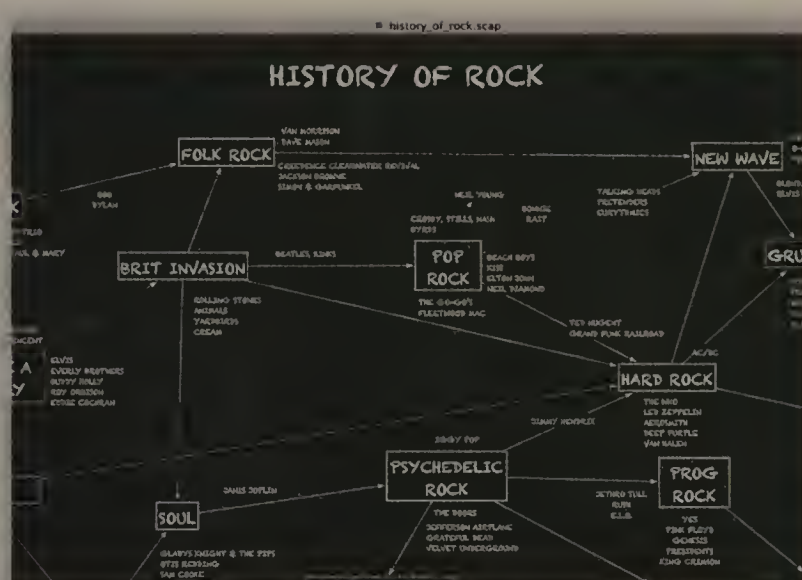
One aspect I appreciate about Scapple is that you can navigate it largely using the keyboard. Just use the arrow keys to move between notes. If you press M on the keyboard, you can switch to Movement Mode, which lets you move notes using the arrow keys.

On top of that, you can also manipulate background shapes—a simple method of grouping notes and stacks together—with

the keyboard. To create a background shape, just choose Notes → New Background Shape.

Scapple exports to many popular document formats, including plain text, PNG, OPML, and more. It also offers integration with Literature and Latte's Scrivener, but not as much as you might expect.

As with Scrivener, some parts of Scapple's interface aren't intuitive—and the two apps could integrate better. But if you're a writer who has already shelled



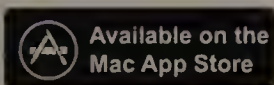
out \$45 for Scrivener, the extra \$15 for Scapple is a no-brainer. If you're not a Scrivener user, Scapple is still an appealing tool.—JOSH CENTERS



Protect your on-line privacy

and bypass any geo-restrictions to unblock website and services like Facebook, Youtube, Skype, Voip in countries that censor content.

Vpn One Click



- Translated in 28 languages
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Vpn One Click uses advanced encryption technology to secure your browser, mail, chat and any other application that uses internet.

Vpn One Click protects your Ip Address enabling your to surf the web anonymously and you can watch your local television from abroad connecting to a server available in 19 different countries.



<https://www.vpnoneclick.com> or if blocked <http://80.241.216.118>

iOS Central

The Latest on the iPhone, iPod Touch, iPad, and App Store

Hands-On With Office Mobile for iPhone

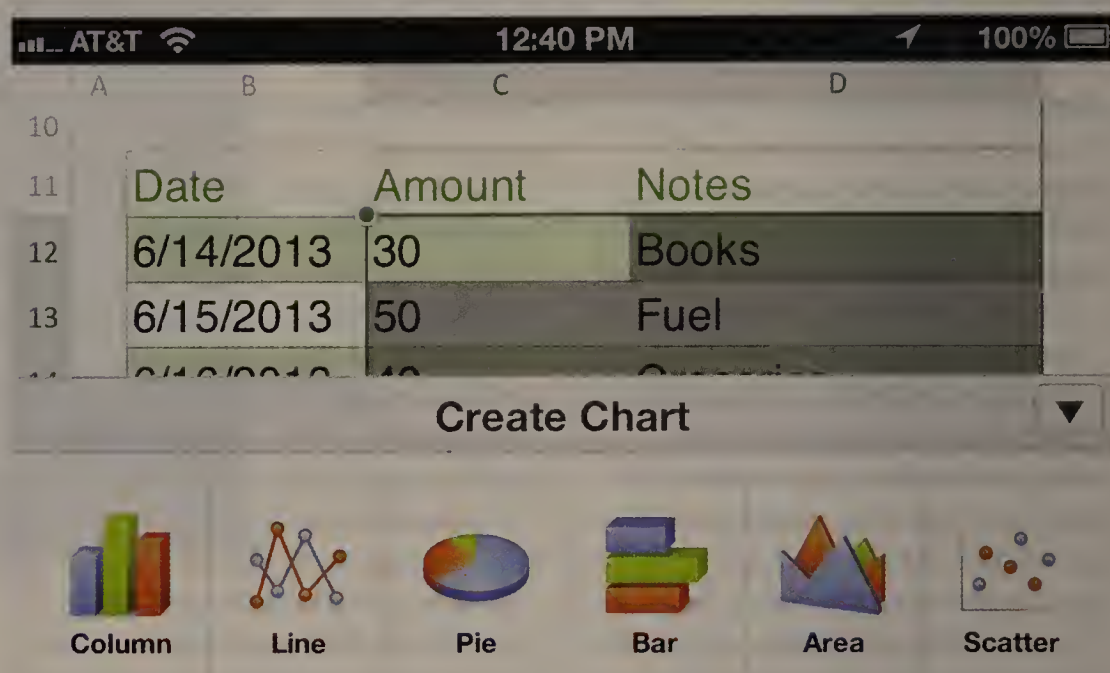
Microsoft's app lets you open and edit Office documents on the go.

BY JEFFERY BATTERSBY

By now, you've no doubt heard that Microsoft Office Mobile is available for the iPhone. (Yup, it's iPhone-only.) Should you care? That depends on whether you are a subscriber to Microsoft's Office 365 and SkyDrive services, because Office Mobile is really a front end to Office 365, not a stand-alone productivity suite. (The services cost from \$100 to \$120 annually for personal use. If you want to give the app a test run, Microsoft offers a 30-day free trial of Office 365, which you can set up at office.microsoft.com.)

Office Mobile does give you access to Word, Excel, and PowerPoint. Each of the three iOS apps lets you read and edit documents created in its related PC, Mac, or Web applications; if you want to create new documents on your iPhone, you can do so with the mobile Word and Excel, but not with the mobile PowerPoint.

If you want to create new documents on your iPhone, you can do so with the mobile versions of Word and Excel, but not with the mobile PowerPoint.



When you sign in to your Office 365 account via the mobile app, you have access to your SkyDrive folder. But after installing the app on two devices, I found that only one automatically connected to my SkyDrive. For the second install, I had to use the app's 'Add a Place' tool and choose SkyDrive. 'Add a Place' is also the way you connect to your business's or school's Office 365 SharePoint.

Once connected, Office Mobile displays a file browser with buttons for seeing recently used documents, opening documents, creating new ones, or changing settings. To create documents, tap the New button and choose a blank template or one of the three preconfigured templates provided for Word and Excel.

Oddly (and inconveniently), the app does not let you create folders. You can't add or save files to existing folders, either, as they all land in your SkyDrive's root directory.

Highly Polished Excel in Office Mobile is the most capable of the three apps offered. It even allows you to create charts based on your spreadsheet data.

You'll be surprised to discover that Office Mobile expects you to save documents manually—despite the fact that every other iOS app since the beginning of iOS-time automatically saves anything you're working on. Also, when you save changes, even on the smallest of documents, the SkyDrive save can take several seconds to complete.

Word

Working with Word files is...interesting. Typing is easy, and works as it should. Office Mobile feels like a basic text editor. But the mobile Word has two modes: a preview mode that lets you select text and make changes to its formatting, and an editing mode that allows you to type new text. These two modes employ two different methods for selecting text.

In its editing mode, Word provides a nonstandard means of text selection: You double-tap a word to select it, and then

you use the selection tool as you normally would. Given that this approach deviates from iOS's normal text-selection procedure, I found the technique difficult to discover. Once you've selected text, you can change its formatting, copy it and paste it, or add a comment to it, but you can't cut it. Within editing mode, you can also change the formatting at the spot where your cursor sits in the document, so that anything new you type will reflect the changes.

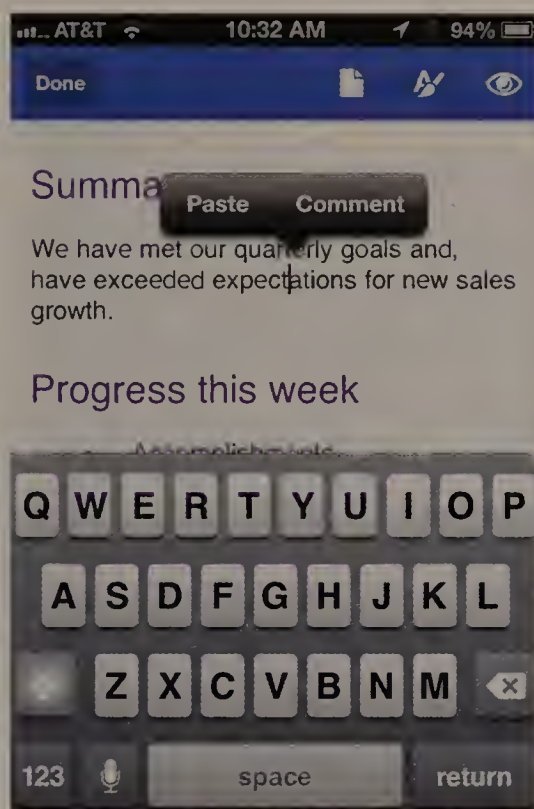
In Word's preview mode, you can select text as you do in any other iOS app, tap the text-formatting tool, and make changes. But afterward, you are once again in the editing mode, so you have to double-tap the text to make further formatting changes.

Excel

Of the three Office Mobile apps, Excel is the most polished. The spreadsheet tool offers more than 125 built-in functions, plus the ability to select spreadsheet cells to create charts. On top of that, when you're editing functions, you can tap cells to add their contents to the function field. But the app is frustratingly lacking in intelligence with regard to the type of data you're editing in a cell: For example, although it's possible to change the format of a cell to date, percentage, or currency format, the app's keypad doesn't automatically recognize those differences.

It also fails to differentiate between text and numbers. Even if you select a cell containing numeric data, the app gives you a standard QWERTY keyboard; that means tapping a couple of keys before you can enter the data you need. Contrast that clunkiness with the behavior of Apple's Numbers, which is aware of the kind of data you're entering and adjusts the keyboard accordingly.

The app offers you six chart types to work with; when you select one, the app adds a new sheet containing that chart type. Updating your spreadsheet data adjusts the chart accordingly. Unfortunately, once you create a chart—or if you are working with a chart created in any other version of Excel—you cannot change the chart type, delete the chart, or delete sheets that the chart created. In fact, you cannot delete any sheets in the iOS app.



PowerPoint

Although you can't create presentations in the mobile PowerPoint, you can edit existing ones, and if you hook your iPhone to a projector, display, or TV, you can use the app as a presentation tool. Editing is limited to altering the order of the slides and changing the text and comments in existing slides, as well as your slide notes. You cannot change transitions or images, or create new text boxes. As a presentation tool, though, the app works pretty well. If you're in a pinch and you have the necessary adapters on hand, it can save your bacon if something happens to your computer.

If you've used any presentation tool, you know that presentation files can be behemoths. With Office Mobile, my connection to SkyDrive consistently timed out when I tried to upload changed presentations. In

On Your Own You know how almost all iOS apps auto-save documents? Office Mobile doesn't do that.

Deviant Behavior In Word's editing mode, you don't select text in the standard iOS way.

many cases that happened because my iPhone went to sleep. But even when I kept the phone awake, Office Mobile had difficulty moving large files to my SkyDrive.

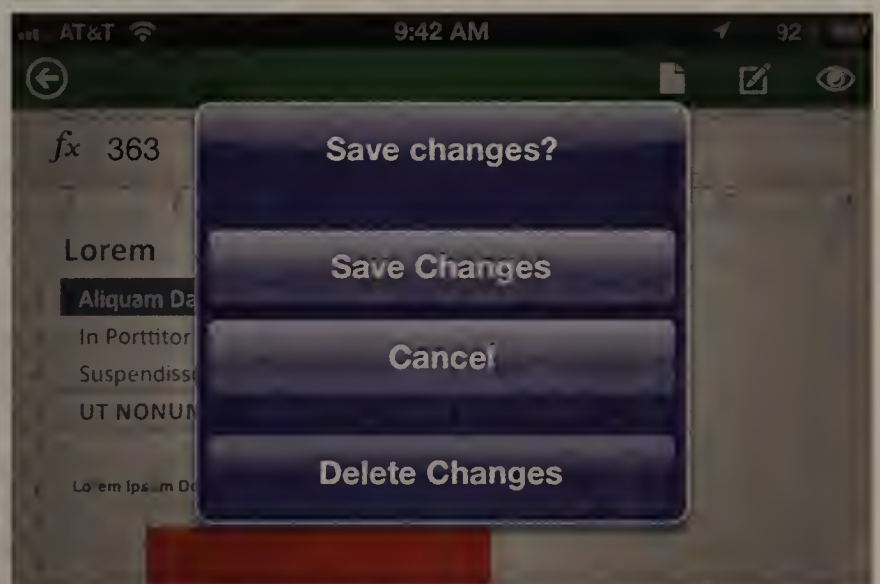
SkyDrive Integration

In fact, in my initial testing, the Office app's SkyDrive integration was spotty at best. (To be fair, this is also true of Microsoft's SkyDrive app.) Most files created in the app or in Microsoft's Web apps synced with SkyDrive; but depending on their size, file uploads from my phone suffered from timeout issues. Files that I created on my Mac and saved in its SkyDrive folder often took hours to appear on my phone. That may be a symptom of the limitations of SkyDrive on my Mac—but if you're used to Dropbox, which syncs immediately, such delays can be an unwelcome surprise.

On top of that, when I saved changes to a document, SkyDrive often reported conflicts with an existing copy of the file on SkyDrive, even though I was the only one editing the file and was doing it only on my phone. Subsequent saves worked, but SkyDrive almost never allowed me to save changes to documents the first time I tried.

Far From Impressive

On first look this app fails to impress. It doesn't offer much added value, and in fact it may just introduce frustration. Its status as an iPhone-only app seems like an unnecessary limitation, too. A native iPad app would be more desirable.





Comixology App Develops New Reading Superpowers

An update to the Comics iOS app brings support for a fit-to-width reading mode and a new two-page display.

BY JASON SNELL

The 2009 release of Comixology's Comics app was the beginning of a beautiful friendship between comic-book readers and their mobile devices. But the app's interface hasn't really changed—until now. In addition to the existing one-page and Guided View options, the updated version has two modes—two-page and fit-to-width—that users of Retina iPads and the iPad mini will find especially welcome.

Additional Viewing Modes

If you hold your iPad in landscape mode, the two-page view places the left and right pages of a comic together, whether it's a two-page spread or two single pages. The text and art become rather small, but eagle-eyed readers might find the results acceptable on a Retina iPad display.

Two-page view has been available on Comixology's Web-based reader for some

time, so the company maintains a solid database of left and right pages. I couldn't find a single comic that mistakenly displayed a right page on the left. On older comics, ad pages are omitted, but the

The fit-to-width mode always shows pages as wide as they can be, making everything as big as possible on a small-screen device like the iPad mini.

comic pages always stay in the proper sequence. (Users of the new app will see a prompt to download, in the background, an updated version of the comic that contains this extra page-layout metadata.)

According to David Steinberger, CEO of Comixology, the two-page view has been a top user request since the Retina iPad debuted in early 2012, but making it work with all of the Comics app's other features was tricky.

Two in One The Comixology Comics app can now present two pages side by side. The layout is especially appropriate for Retina iPads.

"It was fairly challenging to make sure that in two-page-up you had the same ways to get into Guided View smoothly and exit smoothly," Steinberger says.

The new fit-to-width mode also works well if you tend to hold your iPad in landscape orientation. Previously, you could pinch and zoom to try to make the page wide enough to fill your screen, and then slowly scroll down as you were reading. The fit-to-width mode is better in that it always shows pages as wide as they can be, making everything as big as possible on a small-screen device like the iPad mini.

Reading Panel by Panel

When it launched, Comixology's app was notable for its Guided View mode, which walks you through the contents of a comic book panel by panel—and sometimes even word balloon by word balloon. Steinberger shows obvious pride in Guided View, but he admits that some people prefer not to use it.

I use Guided View only when I'm using an iPhone, and I greatly prefer reading comics on an iPad, where I have space to see the full comic page. But Steinberger says that many readers, even on a Retina iPad, always use Guided View. And in the future, as more comics are formatted for tablet screens rather than the printed

page, a Guided View–like approach may become far more common.

In the meantime, the premier comics app for iOS now gives readers two new ways to enjoy comics. And when I'm on my iPad mini, I'll be giving fit-to-width a workout. While I love the two-page view, I'm not sure my 42-year-old eyes will let me read whole comics in that mode, even on my Retina iPad. I need a 13-inch iPad just for comic-book reading, I think.

Apple Rolling Out iPads to Public Schools in Los Angeles

In June, Apple announced that the Los Angeles Unified School District's Board of Education had approved deploying iPads to students across the district. The deal, worth \$30 million, will see an iPad distributed to every student on 47 campuses this year—and that's just the beginning. Jaime Aquino, the LAUSD's deputy superintendent of instruction, says the goal is to provide every child with a device by 2014.

The district has more than 640,000 students in its 900-plus campuses and 187 charter schools. The rollout, when complete, will mark the largest such deployment in the country. It will bolster Apple's presence in the education realm, too; Phil Schiller, vice president of worldwide marketing, announced that nearly 10 million iPads are already in schools.

Education has long been part of Apple's DNA. Last year, for example, the company



demonstrated its new electronic-textbook initiative. Though students and teachers have responded positively to the digital textbooks, the availability of materials for some grade levels and subject areas has been sparse. That situation may change with the influx of iPads into the L.A. district.

On those iPads, Apple will include an app for the Pearson Common Core System of Courses, as well as apps such as iWork and third-party education apps.—DAN MOREN

Virgin Mobile to Start Offering Three iPhone 5 Models

As it did with the release of the iPhone 4 and 4S, Virgin is following Cricket—which has been selling the iPhone 5 since September 2012—in offering Apple's latest-generation iPhone to the prepaid wireless market.

Like Cricket, Virgin Mobile sells iPhones without the subsidies that Apple provides through AT&T, Sprint, and Verizon. The iPhone 5, which as of this writing is "coming soon," according to Virgin Mobile's website (www.virginmobileusa.com), will sell for \$550 (before taxes) for the 16GB version. The 32GB and 64GB iPhone 5 models will be priced at \$650 and \$750, respectively. All versions will be available in black or white, and will be



for sale at Virgin Mobile's site. The 16GB model will also be for sale at Radio Shack, if you want to buy your new Virgin phone from a brick-and-mortar store.

Virgin offers three plans: You can get 300 "anytime" minutes for \$35 a month, 1200 minutes for \$45 a month, or unlimited talk for \$55 a month. (In addition, you can save \$5 a month by signing up to make automatic monthly payments using a debit card, credit card, or PayPal account.) All the plans include unlimited data, though Virgin says that only the first 2.5GB of data per month transmits at "3G/4G full speed."

Virgin Mobile uses Sprint's network in the United States, so nationwide access is available, but it tends to be somewhat spotty in nonurban areas.—JOEL MATHIS

What's New at the App Store



Morning

This nifty \$3 iPad app (go.macworld.com/morning)

combines your morning newspaper and daily calendar. Morning gives you weather, reminders, traffic information for your commute, and some of the latest headlines, all presented in an elegant, easy-to-read layout that comes in five themes.—JOEL MATHIS



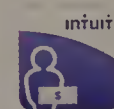
Dispatch: Action-Based Email

A \$5 offering for iPhone, Dispatch (go.macworld.com/dispatch) ranks in the top tier of "Inbox Zero" apps. You can schedule a message for later or send it to one of 14 services, including Evernote, Instapaper, and Reminders. Replying is quick, thanks to the ability to store and apply snippets to your response automatically. Dispatch works with AOL, Gmail, iCloud, and Yahoo email accounts.—JOEL MATHIS



Avengers Alliance

Who would pass up a chance to play the free Avengers Alliance game (go.macworld.com/avengers) with friends, creating an unstoppable force from among more than two dozen of Marvel's most awesome comic-book superheroes? A recent update brings smoother gameplay, plus UI tweaks designed to get Hulk smashing in no time.—JOEL MATHIS



Intuit Online Payroll

Companies that use Intuit's Online Payroll Services but have struggled with the limited interface in the previous versions of the free iPhone app will want to try the iPad-optimized version 5 (go.macworld.com/intuitpayroll). The iPad interface is similar to the iPhone one in features, but it takes advantage of the tablet's bigger screen, so you can see everything at once instead of swiping back and forth.—ROMAN LOYOLA

App Guide

Software for Your iPhone, iPod Touch, and iPad

Star Command

GAMES In this challenging and addictive strategy game loosely based on *Star Trek*, you get a ship and a crew, and you use both to fight enemies over several missions. At first, combat is overwhelming, and not well explained; just when I got used to ordering my crew around, the game threw me into battle and forced me to manage a dozen things at once. After you get the hang of combat, you'll wish you had more stuff to do and more things to fight.

My biggest issue with *Star Command* is its narrow focus. I love visiting planets, meeting a diverse spectrum of aliens, and organizing the ship. But every battle involves enemies boarding your ship—you can't send an away team to attack theirs.

You also can't explore and gain resources as an alternative to fighting, and no matter how you interact with an alien species, they're going to attack. Still, *Star Command* can be sweet and surprisingly clever, with strong writing and well-thought-out character design. A great game makes you want to spend more time exploring and understanding its universe; with *Star Command*, I can't wait to get lost again in pixelated space.—CHRIS HOLT

iPhone/iPad | 4 stars; \$3; *Star Command*



APP GEMS

Watch This



Hulu Plus 4 stars Enjoy popular TV shows (go. macworld.com/huluios).



Netflix 4 stars See titles from the Watch Instantly service (go. go.macworld.com/netflixios).



Amazon Instant Video 4 stars View the Prime library (go. macworld.com/amzios).



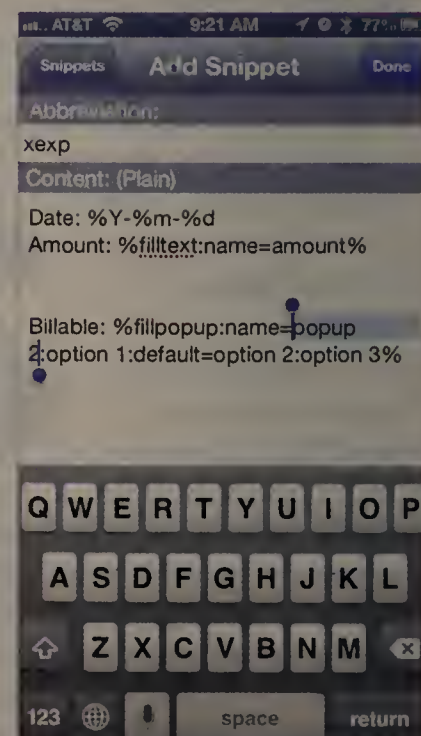
Air Video 4 stars Stream video from your computer (go. macworld.com/airvideo).

TextExpander Touch 2

PRODUCTIVITY Version 2 of TextExpander Touch, for iOS 5.1 or later, puts the iOS app nearly on a par with the Mac version of TextExpander (see page 60). Updated features let you build powerful snippets, such as for creating a form letter. To take advantage of the new capabilities, developers must update their apps to the TextExpander 2 SDK.

The iOS app's editor lacks the Mac program's user-friendly graphical tools, so creating macros and fill-in fields requires typing code. I prefer to make snippets on my Mac and sync them to my iOS devices. Even so, I can't imagine my life without TextExpander. Here's hoping that iOS developers hop onto the TextExpander 2 bandwagon.—BRIAN BEAM

iPhone/iPad | 4 stars; \$5; Smile Software





Haiku Deck for iPad

PRODUCTIVITY Haiku Deck is made to help you craft a good-looking presentation quickly. You can choose from five free themes; 11 more themes are available to buy, for \$2 apiece or \$15 for a “theme pack.” Each new slide can have an animated graph, text on a

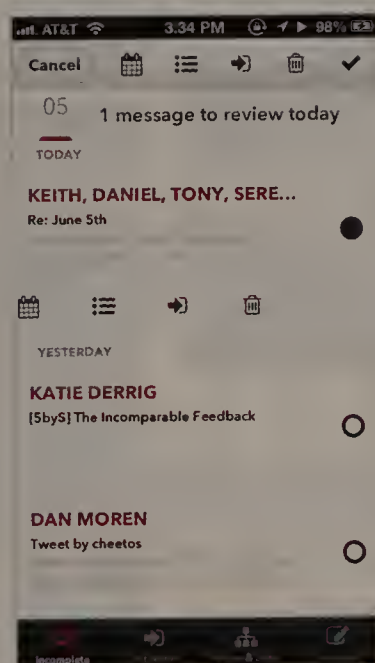
solid slide, or text atop a picture. You can select your own photos from Facebook, Flickr, Instagram, or your camera roll, or choose any of the 35 million available stock images. Once you’ve finished your slideshow, you can save it to the service’s website. (Note that doing offline work in the app is nearly impossible.) Alternatively, you can export it to PowerPoint or Keynote, or leave it in the app and show it via AirPlay mirroring. Haiku Deck produces solidly professional and elegant results.—JOEL MATHIS

iPad | ; Free; Giant Thinkwell

Mail Pilot

EMAIL Many people use their email as a to-do list, noting bills to pay, calls to make, and the like. Mail Pilot lets you clear up the mess by choosing when to deal with new messages, rather than where to put them. Arriving email is “Incomplete,” and you can file it for another day, file it indefinitely, send it to a Mail Pilot list, or mark it as done, archived, or deleted. Unfortunately, 10 to 15 percent of my messages failed to get from my Inbox/Incomplete list to their destination. I suspect this isn’t entirely Mail Pilot’s fault; but missing email is a little scary, especially when you have no option for undoing your selection. When the app works, it’s nifty. Mail Pilot is certainly promising.—SERENITY CALDWELL

iPhone/iPad | ; \$15; Mindsense

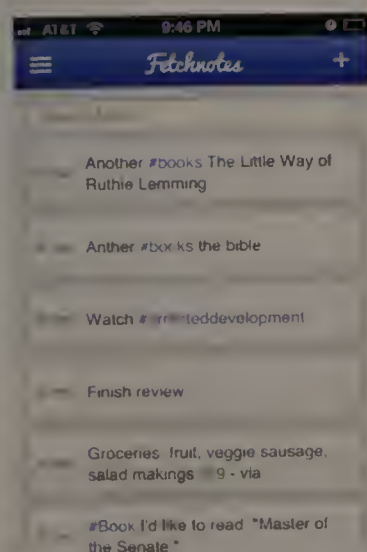


XCOM: Enemy Unknown

GAMES All of the maps, missions, and cutscenes from the console version of XCOM: Enemy Unknown have been compressed to fit into your pocket, allowing you to defend humanity from alien invasion no matter where you are. The gesture and tap controls don’t feel as accurate as those in the original game; on the iPad, XCOM has buttons for certain tasks, and I often used those rather than the gestures. The game is more enjoyable on the iPad overall because of the extra screen real estate. You also need a newer device for the best results. The app’s support for iCloud game saves allows you to start playing on your iPhone and continue on your iPad.

XCOM shows that console-quality gaming is possible on phones and tablets. Strategy-game enthusiasts will get a kick out of its near-infinite replay value.—ARMANDO RODRIGUEZ

iPhone/iPad | ; \$20; 2K Games



Fetchnotes

PRODUCTIVITY Simple note-taking apps seem to be on the rise. Fetchnotes belongs to this category, but it left me wishing that its developers had filled out its slender roster of features. After you create an account to make notes accessible from any device, you tap a plus symbol and type a thought. You can apply hashtags, but their purpose is confusing. The #books tag, for example, seems intended to generate a link to Amazon for the book you want; in my tests, however, a note referring to the Bible created an Amazon link to a, well, much more obscure work by an anonymous author. And tapping the hashtagged word doesn’t show you other notes with the same hashtag. Similarly, you can mention a friend on Fetchnotes using a Twitter-like “@”nickname. The problem: You have no way to tell whether that pal is using Fetchnotes, and you can’t search for people in your contacts list.

If all you want to do is to jot down the occasional “remember this” item, Fetchnotes can handle the task. But if you need to organize or share your notes, the app’s features fall short.—JOEL MATHIS

iPhone/iPad | ; Free; Fetchnotes

Reviews

Accessories and Add-ons for Your iOS Devices



SurfacePad

★★★★; \$35; Twelve South; twelvesouth.com

The soft-leather SurfacePad is a folio-style cover for the iPhone 5 that can fold into a landscape-orientation stand. The cover keeps the phone slim and guards the screen from scratches, but three sides of the iPhone remain exposed and vulnerable.

In my tests the cover came apart after less than a week of light usage. Twelve South was quick to offer a replacement. Other people who ran into similar problems seem to have gotten new covers just as easily, but I'm concerned about the item's longevity.—ALBERT FILICE



Standzfree

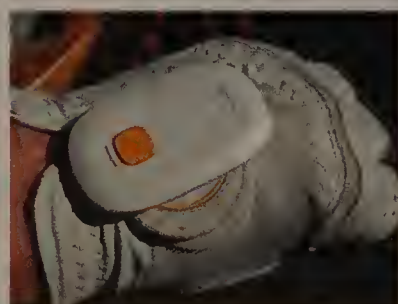
★★★★; \$100; Standzout; www.standzout.com

This tall, upright stand with a long and flexible extender allows you to move your full-size iPad off your desk or table and position it virtually anywhere. A telescoping tube

extends the stand to between 36 and 48 inches in height.

The Standzfree is best suited for passive viewing of your iPad's screen, such as when you're watching videos or reading in bed or on an exercise bike. That said, the 6-pound stand is acceptably stable for typing and swiping.

The frame holds an iPad securely (you can insert included foam pieces for a better fit), and can rotate 360 degrees. Overall, the Standzfree is a fine concept that's nicely executed.—JACKIE DOVE



GolfSense

★★★★; \$130; GolfSense; www.golfsense.me

The 0.6-ounce GolfSense sensor attaches to your golf glove and works with an app to improve your swing. The app is available for the iPad and iPhone, and your data syncs between devices. The app is intuitive and loaded with features. Syncing works well too, aside from an odd inability to sync my club setup.

GolfSense accurately tracks swing plane, swing tempo, and club position. In other areas, it gives good general guidance, but specific values may not be spot-on. Having a device on hand (literally) to help at the practice range is a wonderful tool.—ROB GRIFFITHS



Graduate Edition Case for iPad Mini

★★★★; \$55; Pad & Quill; www.padandquill.com

The sturdy Graduate Edition book-style folio case includes a layered wooden frame with cutouts for the iPad mini's controls, ports, and rear camera. A ribbon-style "bookmark" is

designed to sit behind the mini to make removal easy, but it didn't help me pop the mini out. On the plus side, the rubberized strips in the frame's corners hold the iPad mini securely in place.

The main issue I had was with the cutout for the Sleep/Wake button, which was a bit misplaced. Fortunately, waking up the iPad mini's display or putting it back to sleep is no problem thanks to a magnet in the Graduate Edition's cover.

—SARAH JACOBSSON PUREWAL

iOS Devices: Current Lineup

PRODUCT	SPECS	RATING	PRICE ¹	DISPLAY	MORE INFO
iPad 2 ²	16GB	Wi-Fi, ★★★★★	Wi-Fi: \$499; Wi-Fi and cellular: \$629	9.7-inch color (Retina)	go.macworld.com/ipad4
	32GB	Wi-Fi, ★★★★★	Wi-Fi: \$599; Wi-Fi and cellular: \$729	9.7-inch color (Retina)	go.macworld.com/ipad4
	64GB	Wi-Fi, ★★★★★	Wi-Fi: \$699; Wi-Fi and cellular: \$829	9.7-inch color (Retina)	go.macworld.com/ipad4
	128GB	n/a	Wi-Fi: \$799; Wi-Fi and cellular: \$929	9.7-inch color (Retina)	go.macworld.com/ipad4
	16GB (iPad 2)	★★★★★	Wi-Fi: \$399; Wi-Fi and cellular: \$529	9.7-inch color	go.macworld.com/ipad2
iPad Mini	16GB	Wi-Fi, ★★★★★	Wi-Fi: \$329; Wi-Fi and cellular: \$459	7.9-inch color	go.macworld.com/ipadmini
	32GB	Wi-Fi, ★★★★★	Wi-Fi: \$429; Wi-Fi and cellular: \$559	7.9-inch color	go.macworld.com/ipadmini
	64GB	Wi-Fi, ★★★★★	Wi-Fi: \$529; Wi-Fi and cellular: \$659	7.9-inch color	go.macworld.com/ipadmini
iPhone 4, 4S, and 5	8GB 4 ³	★★★★	Free	3.5-inch color (Retina)	go.macworld.com/iphone4
	16GB 4S ⁴	★★★★	\$99	3.5-inch color (Retina)	go.macworld.com/iphone4s
	16GB 5 ⁴	★★★★★	\$199	4-inch color (Retina)	go.macworld.com/iphone5
	32GB 5 ⁴	★★★★★	\$299	4-inch color (Retina)	go.macworld.com/iphone5
	64GB 5 ⁴	★★★★★	\$399	4-inch color (Retina)	go.macworld.com/iphone5
iPod Touch 5th Generation	16GB	★★★★	\$229	4-inch color (Retina)	go.macworld.com/itouch516
	32GB	★★★★★	\$299	4-inch color (Retina)	go.macworld.com/itouch5
	64GB	★★★★★	\$399	4-inch color (Retina)	go.macworld.com/itouch5

n/a = Not available. ¹All prices are Apple's prices. ²Separate Wi-Fi-and-cellular iPad models are available for AT&T's network and for Verizon's. ³This phone is available only with an AT&T plan. ⁴These models are available with an AT&T, Sprint, or Verizon plan.

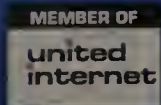
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New domains. New opportunities. Create your perfect web address with **over 500 new top-level domains** from 1&1! Short, memorable domains like fashion.blog and auto.shop are ideal for getting your website found easily. Pre-reserve your preferred domain **for free, with no obligation!** With regular updates from 1&1 you don't miss the chance to get the domains you want. Find out more on our website **1and1.com**

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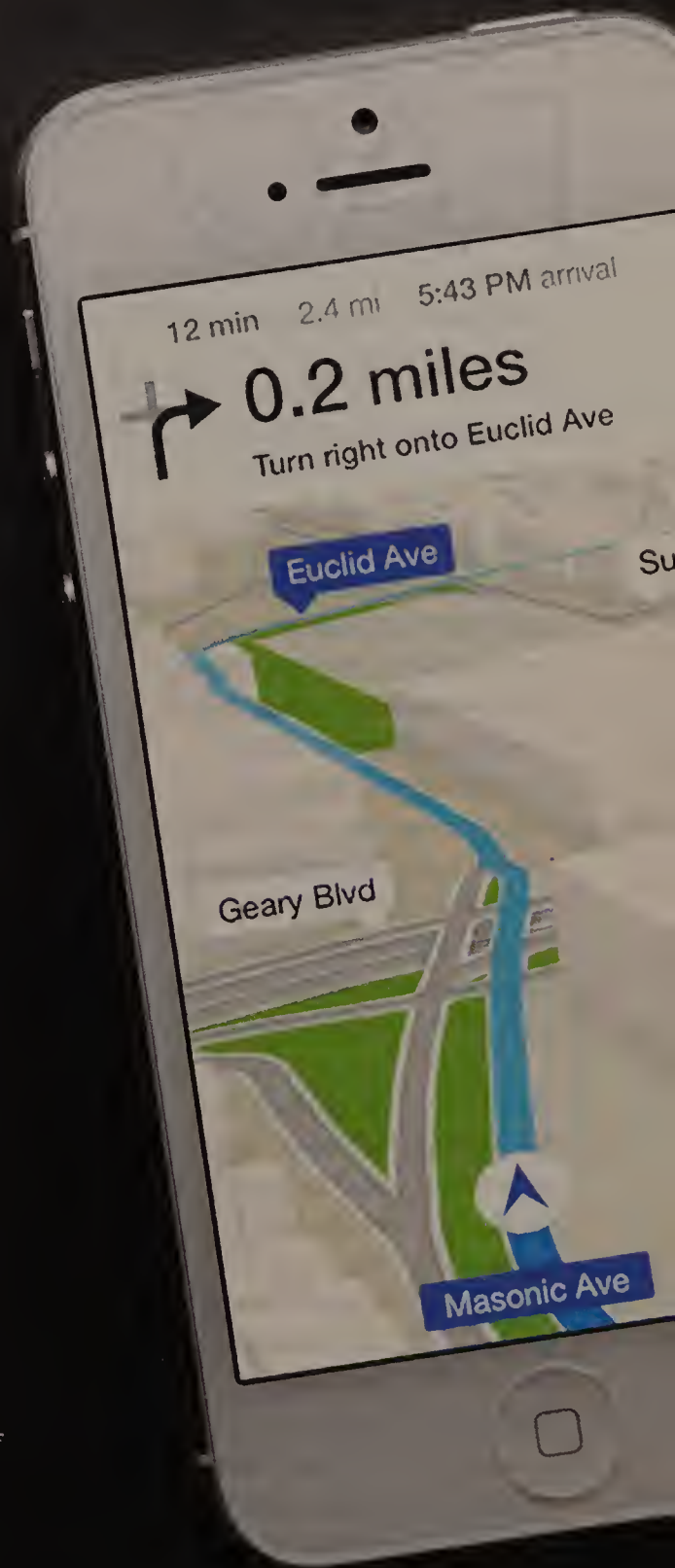
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HERE COMES iOS 7



OUR FIRST LOOK
AT APPLE'S
NEXT-GENERATION
MOBILE OS.

BY MACWORLD STAFF PHOTOGRAPH BY BENJAMIN BLANK



When Apple CEO Tim Cook first took the wraps off iOS 7 at June's Worldwide Developers Conference, he called it the most significant overhaul of Apple's mobile operating system since the company got into the smartphone business back in 2007. The Alabama-born Cook wasn't just whistling Dixie: iOS 7 is a dramatic reinvention of the mobile software that goes beyond mere additions and enhancements. Apple is changing the very look of iOS itself.

As we wait for this new iOS to be released, we've taken the opportunity to examine prerelease versions and to ask Apple some questions. Here, then, is what we know so far—and what you have to look forward to.

iOS 7: FAQ

Something as different as iOS 7 is sure to raise questions. Following is an overview based on what we've seen and heard from Apple to date.

THE BASICS

What's the biggest change with iOS 7? Where to begin?

The entire look and feel has seen an overhaul, with flatter icons, less skeuomorphism, and thinner typefaces. That said, anybody who has used iOS will probably feel at home: Apple hasn't changed the home screen much, and the basic gestures and interactions are mostly the same.

How is the new look different from the old look? How did you feel about green felt? Wood bookshelves? Stitched leather? We hope the answer is "not great," because they're all gone in iOS 7. In their place is a cleaner design that's largely about simple lines and icons. While iOS 7 has some elements that are reminiscent of Microsoft's recent Windows Phone design, it clearly has its own distinct style. These aren't just subtle enhancements, either—they permeate every bit of the interface.

iOS 7 also takes design cues from your content, tinting the controls and panels with colors from the photos behind them. Apple's Jony Ive spoke at WWDC about layering the interface, with panels such as

Notification Center and Control Center visually residing "on top" of apps and the home screen.

Will I have to relearn how to use my phone? Launching and using apps is more or less the same, but you have a few new things to learn. For instance, you'll be able to swipe up from the bottom of the screen to summon Control Center (a panel for commonly used system features). And a new swipe-from-the-left-edge gesture sends you to the previous screen.

However, as Apple's Craig Federighi described it at the unveiling, the feeling is a bit like getting a new phone that you already know how to use.

When will iOS 7 be available? Apple says it will arrive in the fall, which has become something of a standard for iOS releases. iOS 6 debuted last September; iOS 5 came out in October 2011. (Before that, both iOS and the phones it powered were on a summer release schedule.)

When iOS 7 becomes available, you should be able to upgrade the same way you could with iOS 6: either by downloading the new OS via



Easy Multitasking The interface for switching among open apps now displays thumbnail images along with icons.

iTunes or by taking advantage of iOS's over-the-air updating capabilities to pluck the new version out of the ether.

What devices will support iOS 7? You'll need an iPhone 4 or later, an iPad 2 or later, an iPad mini, or a fifth-generation iPod touch. (Or, of course, whatever new mobile hardware Apple may release between now and iOS 7's official launch, but why count our iOS devices before they're hatched?)

Specific features have more stringent device requirements:

- > Panoramic photos are available only on the iPhone 4S or later and the fifth-gen iPod touch.

- > You can't shoot square still photos or video on the iPad 2; all other devices can use this feature, however.

- > For the nifty new live camera filters, you'll need an iPhone 5 or a fifth-gen iPod touch. Putting filters on after the fact in the Photos app is an option for the iPhone 4 or

later, the third-generation iPad or later, the iPad mini, and the fifth-generation iPod touch.

> To AirDrop a file to friends, you need an iPhone 5 or later, a fourth-generation iPad or later, an iPad mini, or a fifth-gen iPod touch. You also need an iCloud account.

> Siri remains limited to the iPhone 4S or later, the third-generation iPad or later, the iPad mini, and the fifth-gen iPod touch. It also may not be available for your country. And if you desire a new Siri voice, keep in mind that initially it will be available only in English, French, or German.

THE SYSTEM

Did Notification Center change? Although you still summon Notification Center by swiping down from the top of the screen, it has a new translucent appearance, and it offers some different information. In addition to storing your notifications, as it did before, it has a tab where you can view only your missed notifications, as well as a new Today view.

That last feature acts a bit like Google Now, giving you an overview of what's slated for today, including the current weather, upcoming appointments on your calendar, stock quotes, and a paragraph about what's in store tomorrow.

What's up with multitasking in iOS 7? You can still switch apps by double-pressing the Home button, but the switching interface has changed: It now resembles the old interface for switching pages in Safari on iOS 6 and earlier, where you see a thumbnail of the page. A row of app icons still appears below, and you can swipe back and forth to find the app you

require. Force-quitting apps is a bit different—instead of tapping and holding the icon, you flick a thumbnail up to dismiss it.

More significant differences are behind the scenes. Starting in iOS 4, only certain tasks could run in the background (in order to save battery life). iOS 7 finally brings full multitasking, so any app can run in the background and provide you with up-to-the-minute information as soon as you switch to it.

If any app can run in the background, what about battery life? Apple has spent a lot of time making sure that battery life won't suffer from the new multitasking. The feature tries to collect updates from different apps and run them all at the same time, and keeps an eye on both power efficiency and the current network situation to ensure that the activity doesn't run down your battery.

Anything else? If you've ever grumbled while navigating three levels deep into Settings

to turn off Bluetooth, you'll love Control Center. This new panel, which you can summon anywhere in iOS by swiping up from the bottom of the screen, gives you easy access to common settings, including Airplane Mode, Wi-Fi, Bluetooth, Do Not Disturb, Orientation Lock, Brightness, AirDrop, and AirPlay. You'll also find media playback controls, and icons for frequently used apps and utilities: You can turn on the camera flash to use as a flashlight, or open the Clock, Calculator, or Camera app.

THE APPS

What's new with the Camera app? The significantly overhauled Camera app offers four modes: standard camera, square camera, panorama, and video camera. You can swipe back and forth between them. If you think the square camera might be Apple's way of taking a shot at Instagram, congratulations—you're spot-on. The app also now includes live photo filters that you can apply to your still or square shots. They're even nondestructive, in case you want to remove them later.

What are Moments and Collections? Made for those people who end up with thousands of pictures in their Camera Rolls, Moments and Collections offer a better way to organize photos. Just as iPhoto on the Mac can sort pictures into events, Photos on iOS can use metadata such as time and location to create different Moments—all the pictures you took on Thursday at dinner, for example, or all the photos you snapped on a weekend trip to the country. Collections are larger group-

ings of Moments, often all the photos you took in a general area (say, around your house) during a time period of several months. You can zoom out even further to a Years view.

So iOS 7 has AirDrop? Yes, it does. AirDrop in iOS 7 lets you exchange files such as photos, Passbook passes, and contacts between two iOS-device users over Wi-Fi or Bluetooth, without any configuration and (as Apple's Craig Federighi pointed out at WWDC) without walking around and "bumping" phones with people. AirDrop appears in the Share sheet, along with conventional items such as Mail and Messages; you can even use it to share multiple items with multiple people at once. Files end up in the appropriate app, and are encrypted in transit. You can change permissions to determine whether everybody can share with you, or only certain people nearby (or people in your contacts).

What we don't know is whether iOS devices will be able to AirDrop files with Macs.

What's new with Safari? Apple's Web browser—which the company likes to point out is the most used browser for mobile devices—has some new tricks up its sleeve. The search and URL fields have merged into one field that suggests URLs, bookmarks, and search results as you type. In addition, your favorites are readily available from that screen, giving you one-touch access to bookmarked sites. And the minimalist interface vanishes into the background as you scroll, giving you even more space in which to view content.

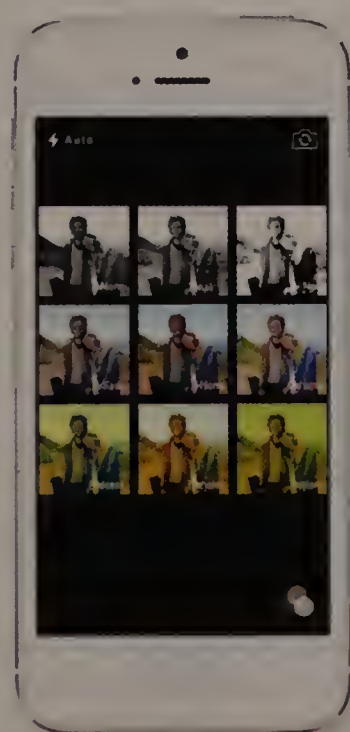


Photo Fun iOS 7's Camera app comes with a set of filters.

A new tab interface lets you scroll more quickly through open pages (and continue scrolling down to iCloud Tabs); you'll also notice the same continuous-scrolling Reading List and Shared Links features that will appear in OS X Mavericks. And iCloud Keychain, a new feature that syncs your passwords between your devices and even helps you generate new passwords, should work seamlessly with Safari.

Wait, isn't iTunes Radio basically Pandora? More or less, yes. (See page 37 for further discussion.) As in Pandora, you can create stations based on a song, artist, or genre, and rate songs as you go along, in case you want to hear more like a given track, or never want to hear anything like it again. You can control the balance of your stations, determining whether they're hit-heavy, whether they favor new-music discovery, or whether they're a mix of the two. The history tab gives you a full list of all the songs you've heard, a convenient feature if you can't remember the name of that one track that had you grooving along.

Apple's new streaming service, however, offers the additional benefit of being tied with the rest of the iTunes ecosystem, meaning that you can easily purchase songs from the iTunes Store, from within iTunes Radio.

Is iTunes Radio the only change in the Music app? Most of the other changes seem to be cosmetic, reflecting the new design aesthetic of iOS 7. Despite the exten-

sive reinvention of iTunes on the Mac that Apple performed last year, not much crossover to iOS is happening—or, if it is coming, Apple hasn't revealed it yet. In particular, we've seen no indication that iTunes 11's Up Next feature has jumped to Apple's mobile platform.

THE REST

Is Siri finally out of beta in iOS 7? We don't know.

Apple's virtual assistant didn't get much screen time in the WWDC keynote, and what time it did have in the spotlight was relegated to a discussion of its new integration features, such as in-Siri results for Bing search, Twitter, and Wikipedia, as well as new

control features for things such as iTunes Radio. Siri also boasts some new, high-quality voices (for U.S. English at the moment, but coming soon for other languages) and a fancy revamped interface—though it doesn't yet have the live-transcription feature that Google recently showed off for its voice search.

How does Activation Lock make my iPhone more secure? Thanks to Activation Lock, a thief who attempts to disable the Find My iPhone feature or to wipe the phone won't be able to do so without entering your Apple ID and password. While dedicated hackers may still be able to

find a way around it, hopes are high that Activation Lock poses enough of a deterrent that thieves will think twice before stealing iPhones to sell.

When will iOS in the Car be available? For what cars? At the moment, Apple says that a dozen automakers—including Acura, Chevrolet, Ferrari, Honda, Hyundai, Infiniti, Jaguar, Kia, Mercedes, Nissan, Opel, and Volvo—have signed on to provide support for the new iOS in the Car initiative, which will allow a driver to work with the screen in the vehicle to use certain iOS features, such as navigation, phone, and entertainment functions.

Are these the only changes in iOS 7? Hardly. Federighi previewed just ten new features at WWDC, but one of the last slides shown at the sneak peek hinted at many more changes—everything from system improvements to developer APIs. See “The Little Things” on page 40 for a look at some of the iOS 7 features Apple didn't discuss at its conference keynote; it's a worthwhile read if you'd like greater depth on what the company has planned.

What's still missing? We can think of a few things that we were hoping iOS 7 would offer that it doesn't yet. For example, the Maps app lacks native transit directions; Siri is missing live-transcription functions; home-screen organization seems unchanged; you can't set a third-party app as the default Web browser or mail client; iTunes has no Up Next feature; and much more. But hey, that just means there's room for improvement.



Moments and Collections
The revised Photos app can now group images according to their time and location.

THE APPS THAT iOS 7 COULD KILL

BY LEAH YAMSHON

Users have a lot to be excited about in iOS 7. In addition to systemwide changes, several of the stock Apple apps are being revamped, gaining features and deeper integration with the Apple ecosystem.

But the debut of a richer mobile platform wasn't music to everyone's ears: As details of iOS 7 have unfolded, the only thing some third-party app developers could hear was a sad trombone. Here are some of the apps that could be made redundant when iOS 7 arrives.

STREAMING RADIO APPS

iTunes Radio is Apple's first foray into a streaming music service for iOS. Users can listen to stations inspired by a track, artist, or genre, and can specify songs they like and songs they despise. Apple has also created 200 featured stations, including 'Songs Trending on Twitter' and 'Artists on Tour.' Now there's a concept we've never seen before!

Oh, wait. Yes, we have. It's called Pandora (pandora.com).

iTunes Radio won't kill off Pandora, but it will offer enticing perks to people who already use iTunes. It will be available on mobile devices, desktops, and the Apple TV. It will be built into the iOS 7 Music app and into a future version of iTunes. Every streamed song will include a purchase link, making it easy to add a track to your iTunes account. Plus, it'll be free, and Apple has made no mention of a streaming cap.

Unfortunately, iTunes Radio has audio ads (but so does Pandora). If you're an iTunes Match subscriber, however, you'll be able to enjoy iTunes Radio ad-free.

FLASHLIGHT APPS

iOS 7 will have a new flashlight app that makes use of the iPhone's camera flash. An App Store search for "flashlight" yields 1273 results; that's 1273 apps that perform

the same basic function as something that will soon come standard in iOS. Most of those apps are free, but some offerings cost \$1 to \$3. Your days are numbered, Flashlight, Flashlight!, and Flashlight+.

WEATHER APPS

Apple's existing Weather app does its job without much pizzazz. Its city profiles and weather information are a little lackluster, with the daily or hourly forecast giving only basic temperatures and conditions. Competing apps, such as Forecast.io and the Weather Channel app, have long overshadowed it, presenting neat animations, extra details (such as wind speed and humidity levels), and a more enticing design overall.

That will change with iOS 7, because Apple's Weather is getting a face-lift. Details will appear over a large, sometimes animated graphic of the current conditions. Users can still save city profiles, which display as stacked tiles with an overview of the conditions in each city. The new design looks sleek and elegant, with more-detailed information.

One rival that is sure to suffer is Yahoo Weather. Apple still pulls weather data from Yahoo, and the redesigned Apple Weather looks oddly similar to Yahoo Weather. (Is it any coincidence that Apple just gave that Yahoo app an Apple Design Award? See page 18.) Regardless, although it still isn't quite as thorough as other weather offerings, Apple's app should provide better weather information than before.



PHOTO FILTERS

While Instagram remains the undisputed king of filters, the App Store still has plenty of apps that provide retro photo effects. Such apps are most attractive to users who want to have fun with filters but don't want to play by Facebook's rules and iffy privacy standards.



With iOS 7, however, Apple's Camera will have a pack of built-in filters. You can choose a filter before or after you take a photo; and if you don't like the outcome, you can remove the filter or try a different one. iOS 7's Camera even includes a square shooting format, which eliminates the need to crop a photo in Instagram if you do want to share it there later.

The new Camera will have only nine filters to start, but they will work with Camera's other settings and shooting styles. Photo enthusiasts will want to hold on to more-professional photo apps, such as Camera+ or Camera Awesome, which include a bevy of settings and shooting modes. Casual photographers, however, will likely find Apple's Camera to be a joy to use. Lesser-known filter apps, such as Camera Bag, PhotoToaster, and Pixlr-omatic, face tough times ahead.



PASSWORD MANAGERS

iCloud Keychain, coming in OS X Mavericks, will remember website logins, credit card information (but not your security code), and Wi-Fi logins, and will integrate with Safari on your Mac. Safari will remember your password, or suggest a new password, and sync it to your unique Keychain. iCloud Keychain will then sync all of this information across your devices—including those running iOS—and keep it encrypted and secure.

Until now, Mac users concerned about security have had to rely on third-party password managers such as 1Password, but soon we'll have an alternative that doesn't cost anything extra. (1Password, in contrast, costs \$50 for one Mac license and \$18 for iOS.) Though third-party password tools work with multiple browsers and offer different ways to make secure passwords, many Mac and iOS users will find that iCloud Keychain suits them just fine.

FIRST IMPRESSIONS

Hands-On With iOS 7

Right now we have four sources of information about iOS 7: what Apple said about it at the WWDC keynote in June, what Apple's iOS 7 website (apple.com/ios/ios7) says, what we've gleaned from conversations with Apple executives, and what we've seen of the prerelease operating system itself.



Stay in Control iOS 7's new Control Center places frequently used system features and apps at your fingertips.

That preview version was released under Apple's confidentiality agreement with developers, so we can't talk too specifically about what it does or doesn't contain. But while hanging around with developers, we couldn't help but take an occasional glance at phones running the new iOS, to see where it's headed.

As we write, iOS 7 is still just a first beta, and (if you ask us) the OS will change a lot before it sees the light of day. But in the meantime, here are some firsthand impressions.

FADE TO BLACK

Locking and unlocking the iPhone comes with a fade-in/fade-out effect, which seems to be a combination of a fade

effect on the screen itself plus a change in screen brightness. It's gentle, but welcome.

SLIDE TO UNLOCK

The 'Slide to Unlock' message on the lock screen no longer sits next to a button with an arrow on it. It's just there, by itself, assuming that you'll know what to do. It's pretty, but it may be a bit too subtle; the upward-pointing arrow for Control Center right below that slider has confused even veteran iOS users, causing us to swipe up even when we meant to swipe right.

THE PARALLAX VIEW

The most mind-blowing moment of Apple's WWDC iOS 7 video was the parallax

effect that appeared when the user moved the phone: The home-screen icons stayed still while the background moved slightly. The effect in Apple's video was far more pronounced than the one that's visible in the developer beta. Apple executives told us that the parallax effect is a work in progress, and that the company hasn't yet decided just how pronounced it will be.

MANAGING CELLULAR DATA USAGE

The iPhone launched with an unlimited data plan, and even now iOS gives you little control over which apps may pull data via your cell connection (as opposed to Wi-Fi). But in this era of metered wireless data,

such a lack of control can lead to unanticipated data usage, which can cause you to exceed your allotment. The iOS 7 beta suggests that you'll be able to bar cellular-data access for individual apps, and to see how much data each app has been using—a great addition.

ANIMATION EVERYWHERE

iOS 7 is filled with animated effects. When you tap an app to open it, the interface zooms toward the icon, and content flies forward to fill the screen. Press the home button, and the view draws back from that icon to the home screen. Double-press the home button to enter the app switcher, and the current app zooms backward

to join the lineup. When you unlock the iPhone, the icons drop onto the home screen slightly out of phase from one another. Even the red notification badges that appear on apps pop in with an animation.

LIVING ICONS

The Calendar icon has long been able to show today's date, but the Clock icon has been stuck at 10:15 since the first iPhone OS. iOS 7's advances in battery life have at last brought the Clock app to life; just glance at its icon to read the time. Granted, you can still see the time in the toolbar. But the promise of interactive app icons is intriguing—even if Apple is unlikely to let third-party developers in on the action.

BETTER CHARGING INDICATOR

In iOS 6, when your iPhone is recharging, the status bar's battery icon simply displays a lightning bolt, indicating that the device is plugged in; the lock screen has a large icon showing how charged the battery is. In iOS 7, the status bar's battery indicator remains visible, and the lightning bolt sits next to it, gently pulsing. This means that you can see, at all times, how much more charging your battery needs. (The OS also briefly displays a subtle percent-charged indicator in place of the current date on the lock screen.)

MORE GESTURES

New gestures shown at WWDC included a right swipe to return to the previous screen, a flick up to activate Control Center, and an upward drag inside the multitasking screen to kill a misbehaving app. One other neat gesture: Drag down from

the middle of a home screen to drop down a search bar from the top of the screen and bring up a keyboard from below.

BACKGROUND MULTITASKING

While we're looking forward to background processing for all apps, we're wary about its impact on battery life. Fortunately, Apple has added the ability to choose which apps may update their data in the background. This feature works in addition to iOS 7's vaunted battery-life-saving measures, which should prioritize background processes based on which apps you use most frequently and when you use them. But the ability to flip the override switch is still appreciated.

APP WAKE-UP

As a part of iOS 7's multitasking, apps can wake up via a "silent push notification" sent

to your phone from the app developer. You don't see the notification, but the app does, and as a result it wakes up to do work while you're not using it. This feature can be a big deal, because it means that apps can download new stuff promptly. Later, when you open the apps, that new stuff is immediately available.

If, say, Amazon updated its Kindle app to support the feature, Amazon could load your app with purchased books and new periodicals remotely so that they're ready when you open the app. In iOS 6, only Newsstand apps can do this, but in iOS 7 the function is available to every app.

FOLDERS

For those of us whose iPhones are filled with folders, the news that iOS 7's folders will support multiple pages is music to our ears. Finally, we'll no longer have to maintain a 'Games 2'

folder to handle the overflow from our 'Games' folder. We'll no longer have to drop utilities into a miscellaneous 'Web' folder because they can't fit into 'Utilities'. iOS 7's folders are bigger, and that's fine by us.

KEYCHAIN RESTORE

Restoring an iPhone works pretty well, but there's always the matter of reentering your stored passwords. Although we appreciate the security of that arrangement, it can be frustrating when you can't recall some of the passwords. iOS 7 has an answer: If you've enabled the new iCloud Keychain, you can have your stored passwords restored to your phone, along with the rest of your data. That's especially convenient given that iCloud Keychain will suggest strong passwords—and you might not remember those otherwise.

PRIVACY, PLEASE

Private-browsing mode is a handy feature, but earlier versions of iOS squirreled it away within the Settings app. In iOS 7, it's far easier to find: When you open the tabs interface, just tap the Private button at the bottom left. No more digging three screens deep just to flip it on or off.

WORK IN PROGRESS

iOS 7 represents a stunning change to the iOS infrastructure. But for those of you thinking, "Gee, I might pay \$99 for that developer kit just to get a glimpse of the new interface," we'd suggest holding off. It's nice to peek at iOS 7, but a first beta is still just a first beta. Although we've enjoyed what we've seen of iOS 7, we'll enjoy it even more in the fall, when it's ready for prime time.



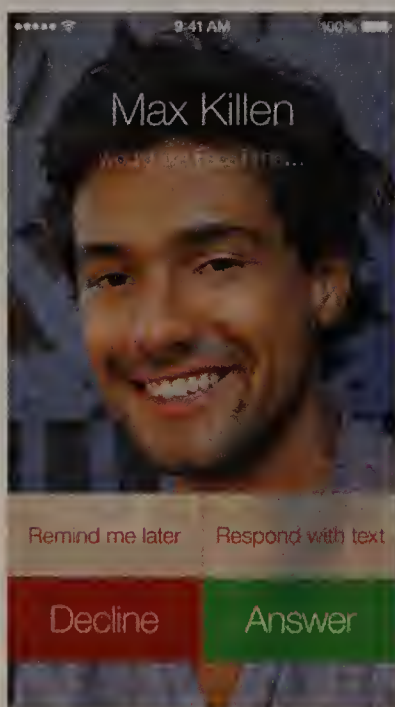
Shifting Views iOS 7's layered interface separates panels, icons, and backgrounds.

iOS 7: The Little Things

Apple had a lot of ground to cover in its WWDC keynote address, which meant that the company didn't have a chance to publicly discuss all the new features hidden inside iOS 7. We did a little sleuthing, however, and we turned up a bunch of cool stuff that the audience didn't hear about at the conference.

SYSTEM IMPROVEMENTS

System improvements aren't always the flashiest features, so they can get short shrift at keynote presentations. But they're often hidden gems.



Audio-only FaceTime calls:

This little nugget got a few seconds during the WWDC keynote when Craig Federighi, senior vice president of software engineering, briefly mentioned its virtues. Audio-only FaceTime calls will allow you to voice-chat with other people—no phone plan needed—but only over Wi-Fi. We're sure that Apple would love to implement this feature over 4G and LTE networks, but

we're also pretty certain that AT&T and the other cellular providers would have something to say about that.

Given the short time Apple spent on the topic during the presentation, it's uncertain whether audio-only calls might also make their way to the Mac via OS X Mavericks. We'll no doubt hear additional details as the autumn release dates for both iOS 7 and OS X Mavericks approach.

Inclinometer: Previous versions of iOS introduced software support for the gyroscope and accelerometer. Now iOS 7 looks like it will get the latest in 3D space-tracking technology: an inclinometer.

What might such a software instrument do? An inclinometer measures the angle of slope/tilt with regards to gravity; as such, you may see more apps in the future that incorporate awareness of up and down movements, rather than just side-to-side motion.

Our personal hope is that app developers will devise a method to use the inclinometer to track floors climbed, similar to how the Fitbit One (fitbit.com) functions. Granted, the One employs a physical altimeter (which, as its name suggests, measures altitude)

to accomplish stair-counting, but perhaps some enterprising developer will find a way to make the inclinometer work for fitness tracking.

Improved notification sync and natural language: Not only will iOS 7 sport “dismiss once, dismiss everywhere” notification sync between your mobile devices and computers, but Notification Center will also produce a Siri- and Google Now-inspired Today pane that provides you with an overview of your day's activities—in natural language, at that. Instead of displaying a ticker of your calendar activities, your iPhone will write up a nice paragraph letting you know what your day's activities might entail.

Activation Lock: Another feature that Federighi touched on briefly during the keynote, Activation Lock prevents would-be iPhone thieves from wiping your device clean and selling it to the highest bidder (or using it themselves).

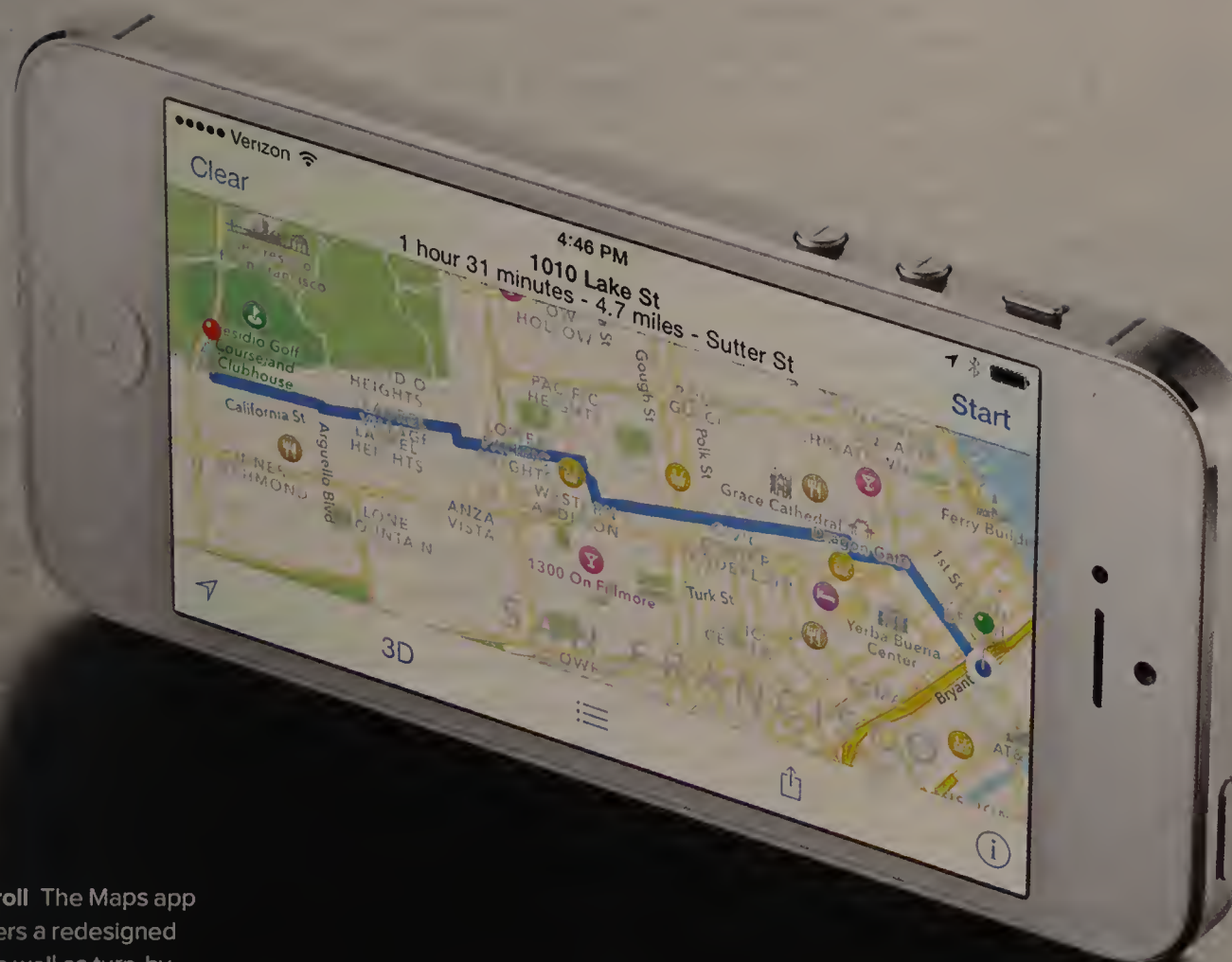
Now, if you should lose your iPhone and have no choice but to remote-wipe it, the iPhone will stay in Lost Mode. Your lock-screen message will remain, and anyone who attempts to use

the phone after a reset will be required to enter your iCloud username and password before the device unlocks.

Weirdly, the ‘Forgot your password?’ prompt will still be available under this login screen, so unless you want thieves trying to brute-force your iCloud account, it might be a good idea to enable two-factor authentication or to make your password hints more difficult to guess before iOS 7's release.

Smarter, faster downloading: Apple's WWDC slide of additional iOS 7 features touted both “smart download of TV episodes” and “scan to acquire Passbook passes” as upcoming perks for the mobile operating system, but neither of those features had a concrete description attached.

If we had to venture a guess, we'd suspect that “smart downloads” will involve the iTunes app automatically downloading TV shows for which you have purchased a season pass as soon as they're posted to the store. Meanwhile, the “scan to acquire” function sounds as if Passbook might be getting a built-in QR-code scanner for acquiring passes; the “barcode scanning” developer API



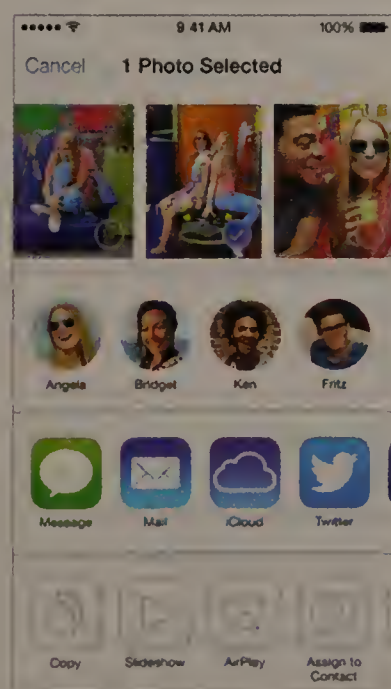
Go for a Stroll The Maps app in iOS 7 offers a redesigned interface, as well as turn-by-turn walking directions.

listed during the June keynote address would seem to confirm this idea.

Wi-Fi HotSpot 2.0: One of the more-technical items on iOS 7's additional-features slide, Wi-Fi HotSpot 2.0 automatically seeks out Wi-Fi subscriber services (for instance, AT&T's hotspot network for AT&T iPhone subscribers) and joins them when you're in the area. In theory, this feature should provide you with faster Internet access and fewer bandwidth constraints.

File support and device visibility on AirDrop: Apple's support for AirDrop on iOS 7

sounds pretty nifty: You can easily transfer photos to a friend nearby over a Wi-Fi or Bluetooth connection—no



wires, physical phone bumping, or extraneous email messages necessary.

But did you know that AirDrop can support other file types as well? According to Apple's website, the service will also support sending Passbook passes and contacts; given the existence of a third-party API for AirDrop, we suspect that you'll also be able to transfer other third-party files very soon.

On top of that, we've heard about one nice AirDrop security feature: By default, the service lets only your contacts see your device, but you can disable it altogether (or, alternatively, let everyone in the area see you).

NEW MAPS FEATURES

Maps will boast a redesigned interface in iOS 7 (and will be able to talk to its new OS X counterpart), but a few other new features are coming to the app as well.

Turn-by-turn walking

directions: If you like to walk, but aren't always familiar with your surroundings, Maps' new turn-by-turn directions for walkers should be a delight. (Yes, it'll keep you from having to pull out your phone every five minutes to check whether you were indeed supposed to take that right turn.)

Night mode for Maps: Some of us are constantly adjusting

our phone's brightness when we use it as a nighttime navigator. As such, night mode for Maps sounds as if it might be right up our alley; although Apple didn't demonstrate at WWDC exactly how the mode might be implemented, a brightness slider or a black-and-white mode would be much appreciated.

Maps bookmark syncing:

iCloud has offered bookmark syncing with Safari since its inception, but iOS 7 marks the first time you'll get sync for

your Maps bookmarks, as well. So if you add, say, your favorite sushi joint's address to your iPhone, it should show up on your Mac and iPad, too.

COMMUNICATIONS

The iPhone is first and foremost a phone, of course, so communication updates in iOS 7 would seem to be a no-brainer. What tweaks can we expect in the fall?

Smart Mailboxes and

improved Mail search: iOS has never had access to your

Mac's Smart Mailboxes, but from the looks of the June keynote's additional-features slide, that may soon change. (Might it also indicate that Smart Mailboxes will soon be synced as part of iCloud? We definitely hope so.)

"Improved mail search" is certainly vague, but we would love it if that meant that you could select a Search All Folders option when looking for a message; currently, no such option exists, and you must go to the folder you want to dig around in and then perform your search.

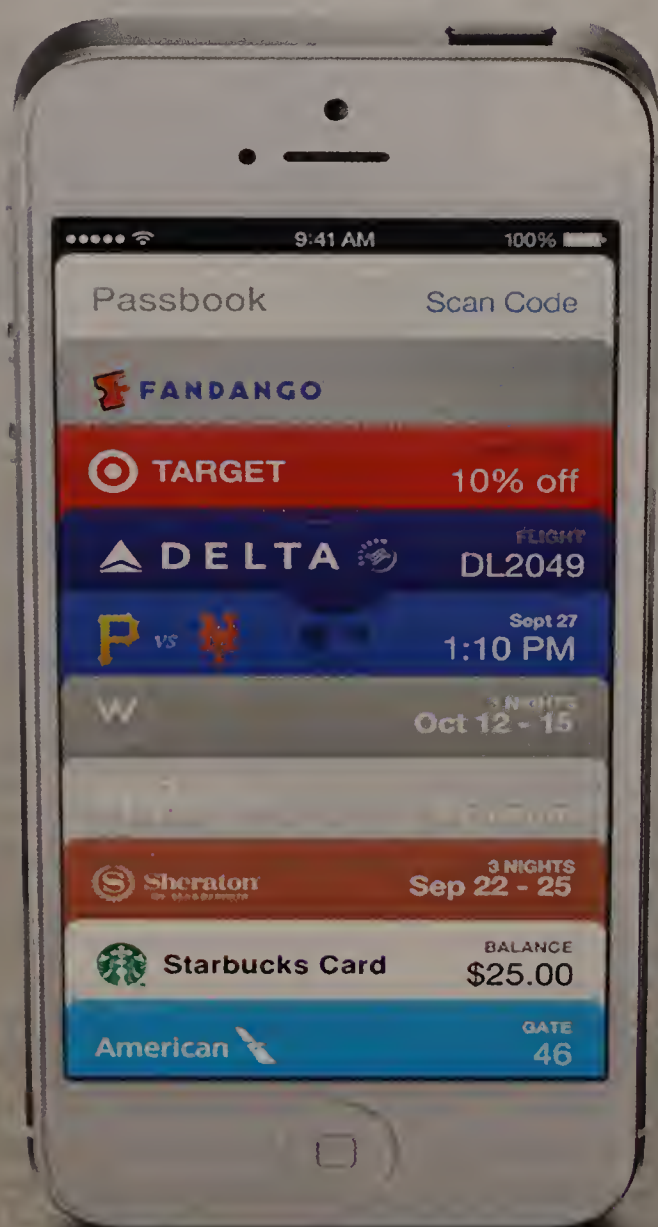
Long MMS support: We haven't seen much information about Long MMS on the Web, but after a quick chat among *Macworld* editors, Senior Editor Dan Moren postulated that traditional SMS messages might have a longer character count before being sent as MMS messages.

PDF annotations: According to the additional-features slide shown at WWDC, you may be able to display annotations to your PDFs by default. In what application, though? iBooks is our best guess, as it is currently iOS's default PDF reader. This feature might also bring PDF-annotation tools along with it, but we'll have to wait and see.

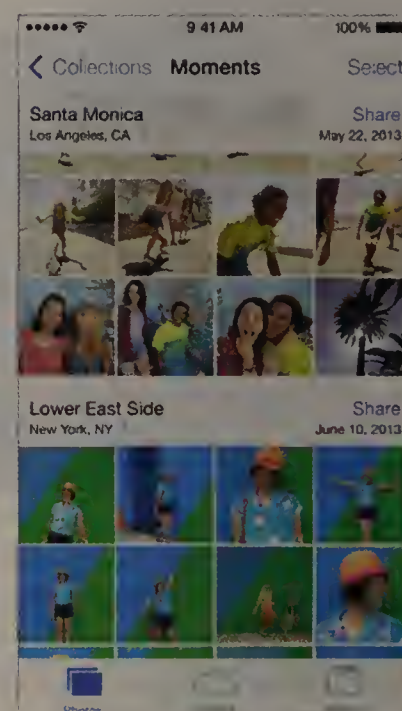
Chat options: According to Apple's website, the Contacts app will display the services that you can use to chat with your friends right next to their contact cards. If you have a friend with an iMessage-enabled email address, for instance, you'll see icons for both iMessage and email displayed next to that address.

Call blocking: So someone is repeatedly calling or messaging you, but you would rather not talk to them? No problem: iOS 7 will provide support for blocking those particularly pesky email addresses and phone numbers.

Do not track: For some time, Safari on OS X has had a Do Not Track option, which prevents advertisers from tracking you as you browse the Web. In iOS 7, mobile Safari seems poised to gain the same feature.



Scan to Acquire iOS 7 might introduce built-in QR-code scanning functions to Passbook.



PHOTOS AND VIDEO IMPROVEMENTS

What's new in the Photos and Camera apps beyond what Apple previewed? Several cool features, actually.

No more Faces and Places:

The era of face-tagging and photo-maps is over, at least for iOS. The Faces and Places tabs are no more on iOS, replaced with Moments and Collections. Both of the new features still seem to be focused on location, and Moments includes map data for individual places. Unfortu-

nately for those users who loved tracking friendly faces, from the WWDC keynote it doesn't look as if Faces will have a prominent place in iOS for the future.

True photo sharing: The Shared Photo Streams feature has always been a little one-sided—you could send photos to your friends, and they could send photos to you, but you would each have to make a separate stream for the process. No longer: Streams can now be collaborative instead of just read-only, and they can contain video, too. We've been clamoring for such functionality since Shared Photo Streams' release last year, and we're glad to see it being implemented in iOS 7.

60-fps video: If you love shooting high-frame-rate video, you'll adore Apple's revamped Camera app, which purportedly captures video at 60 frames per second. (Will it also have 24-fps and 30-fps settings? We'll see.)

SIRI'S NEW TRICKS

Siri has some new and improved voices in the United States, Germany, and France. It also has a new interface that hovers over the home screen rather than sliding down on top of it, and you can search Bing, Twitter, and Wikipedia inline (good-bye, Safari search). You can give it a bunch of new commands, too.

What kinds of commands? Ask Siri to play back your voicemail, return your calls, control your device's settings, or change your music (or iTunes Radio), on top of any of the queries you're accustomed to asking of the assistant.

In addition, if you purchase an automobile in 2014 that incorporates Apple's new iOS in the Car features, Siri might take a page from Google Now's predictive-travel book. iOS will figure out where you might be heading, and get you traffic information and predicted journey times.

INTERNATIONAL FEATURES

Like iOS 6 before it, iOS 7 will come equipped with a few nice region-specific features for international iOS users. The operating system will include new dictionaries for Italian, Korean, and Dutch

speakers, as well as a Chinese-English bilingual dictionary; handwriting recognition for multiple Chinese characters; and support for the Chinese microblogging service Tencent Weibo.

DEVELOPER APIS

Apple stated at the WWDC keynote that developers would gain access to over 1500 new developer APIs in iOS 7. Given that most *Macworld* readers aren't especially interested in such nitty-gritty details, however, here are just a few interesting ones we caught off the slide.

iBeacons: Apple's iBeacons, in technical speak, use the Bluetooth Low Energy profile for microlocation. In plain language, that means your iOS device may be able to use Bluetooth 4.0 devices to collect precise location data—such as your location inside of a building—even though those devices don't have a GPS system installed. That said, we don't claim to be Bluetooth or microlocation scholars, and Apple's APIs are under the confidentiality agreement, so the actual implementation might be slightly different.

Background downloading: We heard mention of this feature during the keynote. It allows your apps to download information for you at certain times of day, even if they're not actively running. In practice, this approach might allow your Twitter feed to download and cache tweets for you to read before you hop on the subway or board an airplane, sans Internet access.

Third-party game controllers: A few pseudo third-party controllers exist for iOS games already, but it looks as if Apple plans to offer more-expansive support for anyone wishing to connect third-party controllers to their iOS devices.

More Apple Maps in your third-party apps: Some people would prefer that Apple's Maps stay far away from their third-party apps. But if you like Apple's implementation, you may see more of it in your other apps in the form of directions and "map snapshots."



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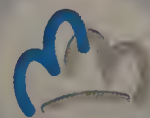
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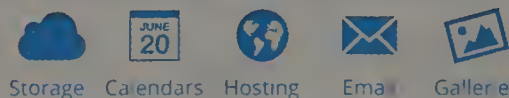
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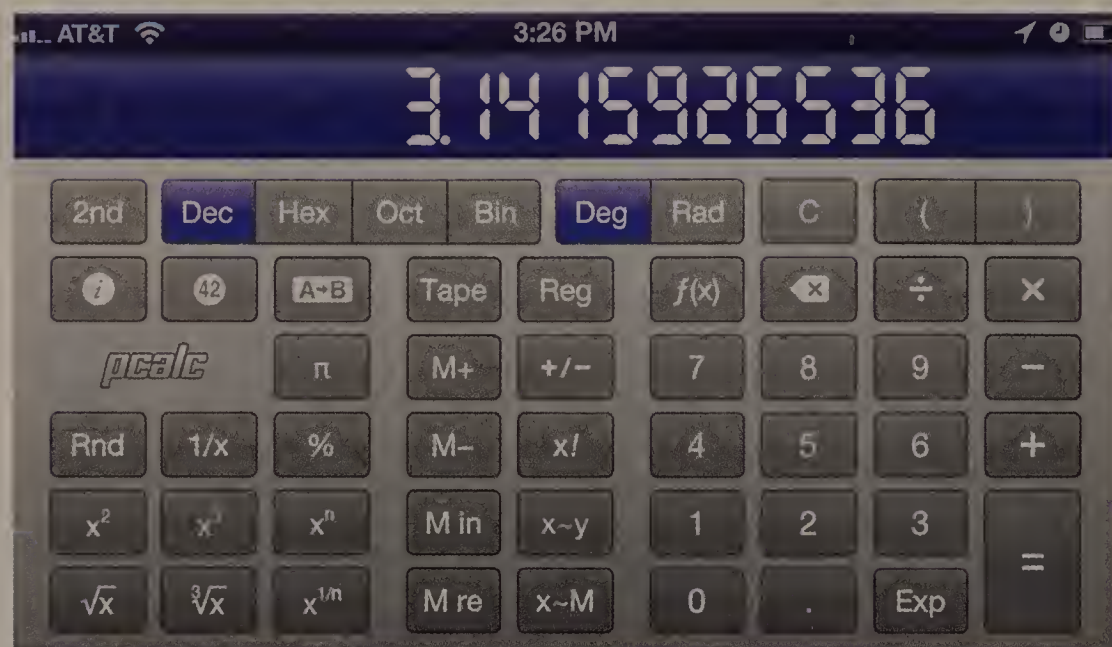
UPGRADE YOUR APPS

The apps built into iOS aren't always the best choices.

BY MACWORLD STAFF



Apple's stock apps for the iPhone, iPad, and iPod touch are great—mostly. But what if one of them doesn't quite fit your needs? With many thousands of third-party apps to choose from in the App Store, finding replacements for Reminders, Calendar, and Notes can be an overwhelming task. Luckily, we have some suggestions. The excellent apps on the following pages will help you make the most of your iPhone or iPad.



CALCULATOR

BY DAN FRAKES

UPGRADE TO



The basic Calculator app is certainly good enough for simple calculations, but if you want a full-dress scientific calculator, you'll find no better app than

PCalc (\$10; pcalc.com), from TLA Systems. It offers a panoply of features that are on a par with those of its Mac counterpart, including separate interfaces for the iPhone and the iPad, scientific calculations, conversions, iCloud syncing, and a tip calculator.

Given those features, and the fact that Apple mysteriously omitted a default calculator app from the iPad, PCalc and its sibling, PCalc Lite (free), are incredibly appealing to users who need a good calculator on their device.

PCalc packs all the number-crunching goodness found in standard scientific-calculator fare, including roots, exponents, trigonometric functions, nested operations, an RPN (reverse Polish notation) mode, an inverse function, and more. And it provides a time-stamped virtual tape for revisiting (or even emailing) your calculations, as well as a register (called a *stack* in RPN mode) that displays memory contents and decimal-, hexadecimal-, octal-, and binary-base versions of the

number currently being displayed.

To customize your calculator, you can choose from a slew of visual themes and several key layouts—nine vertical and eight horizontal on the iPhone. (The iPad's larger screen accommodates more keys, which means less need for different key arrangements and subsets of possible keys.)

A final touch: You can also choose one of seven font styles for the virtual LCD, and any of six key-click sounds.

More Features

You can copy results from the display, and paste numbers into the display for use in calculations. You can also undo and redo multiple actions: On an iPad, you get dedicated Undo and Redo buttons, and on all devices, you can shake to undo or simply swipe your finger across the screen—right to undo, left to redo.

In addition, you can change the number of lines in the display—having more lines is especially useful in RPN mode. You can have up to four lines (six on the iPad), and the on-screen keys shrink or grow to fit the chosen size.

Numbers Upgrade
PCalc can crunch the numbers.

PCalc Power The iOS app is as feature-rich as the Mac program is.

PCalc provides quick access to commonly used scientific and mathematical constants, as well as a conversion feature that lets you quickly convert the current number using scores of functions, in categories ranging from angle to fuel efficiency to weight. TLA Systems continues to add many new conversions within existing categories, as well as new currency and cooking categories. The Constants and Conversions menus conveniently display recently used options in the top menu bar, and you can even create your own.

PCalc Lite

Not everyone needs all these features, nor does everyone want to spend \$10 on a calculator for their iPhone or iPad. So TLA Systems also provides PCalc Lite, a free version that gives you a subset of the full version's features, constants, and conversions. For many people, PCalc Lite will be more than sufficient.



CALENDAR

BY LEX FRIEDMAN

UPGRADE TO



Flexibits
Fantastical

Flexibits' Fantastical (\$5; flexibits.com) started life on the Mac, offering easy access to your calendars and impressively quick approaches for creating new

appointments and meetings. The app has since made the leap from the Mac to the iPhone—and it sticks the landing, though it has shed a few of the features that made it stand out on the Mac.

When you first launch Fantastical on your iPhone, it will ask you to grant it access to your calendars. After you approve the request, Fantastical can act as a seamless conduit for any calendars you've added in the Settings app.

At the top of the screen in Fantastical sits a clever Flexibits innovation called the DayTicker. It's a horizontally scrolling list of dates with visual representations of your appointments for each day. As you scroll through the dates, your list of scheduled events for each day appears on the lower portion of the screen.

upper right. True to Fantastical's origins on the Mac, the app won't show you a traditional calendar entry form. Instead, you get a text entry field. If you're like me, you may be tempted to tap the microphone button on the keyboard to dictate instead of typing in an event. Either way, as on the Mac, Fantastical is simply terrific at taking natural language that you provide and turning it into a scheduled calendar event.

For example, if you type *Personal training tomorrow at 9AM*, Fantastical automatically creates the appropriate event on the right day, on your default calendar. Instead of *tomorrow*, you might type *fri* or *dec 6* or any other abbreviation of a recognizable date. The app generates a live visual preview of the event it's interpreting from your entry, and you can drag from side to side to see any adjacent appointments.

The feature needs work, though: The bubbles with your other scheduled appointments are sized according to

FANTASTICAL, WHICH OFFERS EASY ACCESS TO YOUR CALENDARS ON THE MAC, HAS MADE THE LEAP TO THE IPHONE—AND IT STICKS THE LANDING.

Whereas Apple's Calendar app offers day, month, and week views in addition to its list mode—along with an endlessly scrolling landscape mode—Fantastical's focus is instead on a list-based approach.

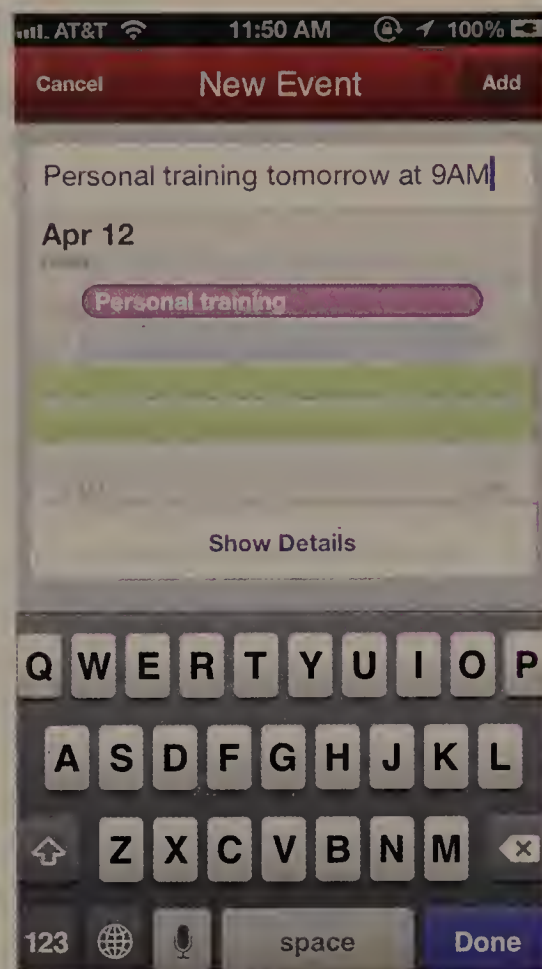
As you navigate the Fantastical calendar, you'll find it both clever and intuitive. Scroll through the vertical list of appointments by day, and the DayTicker scrolls horizontally along with it to center the currently selected day. Tap and hold on a day to start adding an event for that day; double-tap a day to center it. Tap the header bar (it shows the current month and year) to jump back to today's date.

The other way to schedule a new event is to tap the plus button at the

those events' duration; if an event has a shorter time span—such as *Conference call with the team from work for 20 minutes*—you might see only *Conference call with the* in the bubble.

Shortcuts and Issues

If you want to add an event to a specific calendar (not the default calendar you've selected in Settings), Fantastical makes that simple, too. You can use the Mac version of Fantastical's shortcut, the slash key, as in *Lunch with Jason/work*. But since the slash key is in another section of the iPhone's keyboard, Fantastical provides another shortcut: the triple space. Entering *Lunch with*



Event Creation Type an event, and Fantastical automatically creates the event on the right day, on your default calendar.

Jason, a triple space, and then *work* gets the same thing done. You can use shortcuts for your calendar names too; the first few letters should do.

Fantastical does face a few limitations that Apple enforces with iOS. On the Mac, Fantastical lives in your menu bar, so you can click its icon there or press a global keyboard shortcut to immediately start entering a new appointment or quickly view your schedule; such features can't be re-created on the iPhone.

Of more concern is Fantastical's inability to invite other people to your meetings and events—another iOS limitation. You can use Fantastical to add or edit guests to a meeting that already has invited guests, but you can't invite others to a brand-new meeting.

One final issue: Calendar alerts from iOS launch the Calendar app and not Fantastical. Since iOS doesn't let you choose new default apps for the calendar (or email, Web browsing, and the like), no workaround is available.

CONTACTS

BY JOEL MATHIS

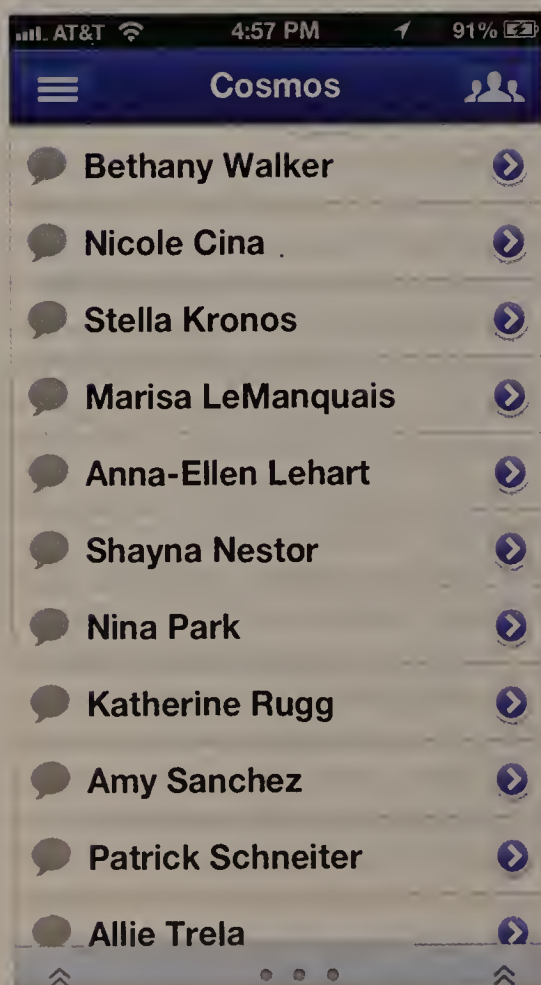
UPGRADE TO



Buzz Contacts

It's easy—and cheap—to stick with the native apps that Apple installs on its iOS devices. But sometimes third-party apps turn out to be head and shoulders above those that come preinstalled. Buzz Contacts from Savvy Apps (\$1; savvyapps.com) is in that rare category: It blows Apple's native Contacts app away. (The developers describe Buzz Contacts as an iPhone dialer, a contacts app, and a texting and group text messaging app all in one.)

The native Contacts app defines just two groups of people: your favorites, and, well, everybody else. Buzz Contacts lets you organize your contacts (for phone, email, FaceTime, and SMS) into as many different kinds of groups as you wish—friends, family members, clients at specific companies, or any other preference that you might have.



This preorganization of contacts makes it really easy to send out bulk email or SMS messages directly to a whole group, without having to take the time to add each name and number individually to your message.

You can't similarly do conference calls or group FaceTime chats, but it's still helpful to organize contacts in groups. For example, if you remember that you need to email a client in Milwaukee, but you've forgotten her name, she might be easy to find in the Clients folder of contacts you made—a quick search in that folder is certainly easier than scrolling through one long list of hundreds of names, as you would have to do in the native Contacts app.

Also helpful: The Groups view displays contacts as large tiles—four to a page—so scanning for names is especially easy.

Modes of Contact

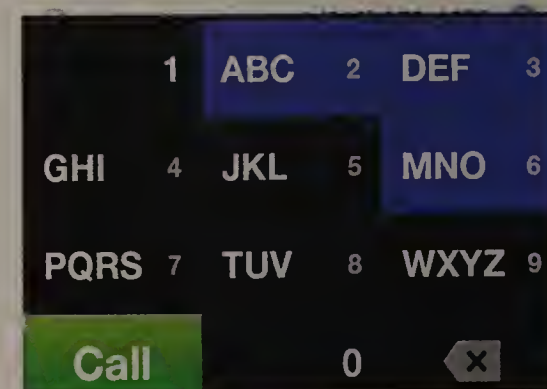
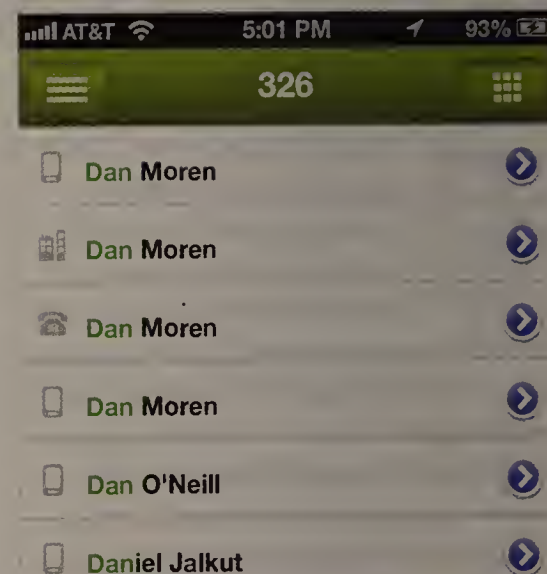
One more aspect of this app's organizational superiority: When you add a new contact, Buzz Contacts lets you choose your primary mode of contact with that person—voice, email, SMS, or FaceTime. You are not limited to communicating with your friends through this primary mode that you designate, but the app does let you set up your preferences for communicating with each person.

If you want to actually call a friend, you can use his or her number—the same as in Contacts. However, you can also start typing a full name or merely the initials—Buzz Contacts will narrow down your list of contacts until you get to the right one.

Similarly, Buzz Contacts is smarter about creating a type of favorites list for

Keep People Organized

Buzz Contacts lets you arrange your contacts into the groups you wish.



Making a Call Instead of entering a number, you can start entering your contact's name—Buzz Contacts will shrink the list of possibilities until you get to the right one.

you, making a separate folder of contacts for people you call more than once.

Buzz Contacts also doesn't assume that you'll want to use the Phone app to make phone calls—it offers options to default to several voice communication apps, including Skype, when you dial out.

Dropbox Integration

And while it's difficult to start an email in Contacts and then attach a document from another app, Buzz Contacts offers integration with both the Box and Dropbox apps on your iOS device.

If you've also purchased Savvy Apps' companion scheduling app, Agenda Calendar (\$2; at this writing, version 4 should be available), the two apps work in tandem to remind you when you need to send a particular email message or schedule a certain business call.

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BY LEX FRIEDMAN

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Mailbox

Mailbox (free; mailboxapp.com) is an iPhone app from Dropbox that makes managing your email a delight. Right now, Mailbox works exclusively with Gmail accounts,

though the developers say that support for other IMAP accounts will come. Once you've connected one or more Gmail accounts to the app, you can start managing your email in a new and enjoyable way.

Like Mail, Mailbox offers an optional unified view of your inboxes, though you can choose to dive into individual

atop your inbox: later today, this evening, tomorrow, this weekend, next week, in a month, or "someday." You define that last option in the app's settings in terms of months; the default is to remind you in one month. A date selector lets you choose the exact date and time the message should pop back up.

The app's collection of settings gives you fairly fine-grained control over all the preset snooze durations, too: You specify what qualifies as mornings on weekdays and weekends, and you define the "later today" interval, too.

number of conversations in your inbox.

Composing messages is simple, and here Mailbox bests Apple's Mail app again. You tap the camera icon as you write your email to choose an existing photo or snap a new one. Apple's app requires that you first tap an empty spot in your message, then tap the Insert button, and finally select an existing photo. Mailbox offers more features and more efficient access.

So what's missing? Not much. Adding per-account signatures, instead of the current one-signature-fits-all approach, would be nice. And we can't find a way to get Gmail's Send As feature to work with the app. Mostly, though, our primary complaint about Mailbox is that we want to use it on all our devices, including the Mac and the iPad, not just the iPhone.

OUR PRIMARY COMPLAINT ABOUT MAILBOX IS THAT WE WANT TO USE IT ON ALL OUR DEVICES—including the MAC AND THE IPAD—AND NOT JUST THE IPHONE.

accounts instead, if that's your preference. What sets Mailbox apart is its approach to managing the contents of your inbox.

As you navigate your inbox, you can tap a message to view it. But if, even before you open a message, you determine it's one you no longer need, you can file it away without ever leaving your list of messages: Swipe right on a message, and it turns green to show you're archiving it. Pull a little further, and it turns red to show you're deleting the message instead.

A Snooze Button

You can, of course, perform those same actions from the message screen: Simply tap the checkmark to archive a message or the X to delete it. The process is intuitive, easy to master, and kind of fun.

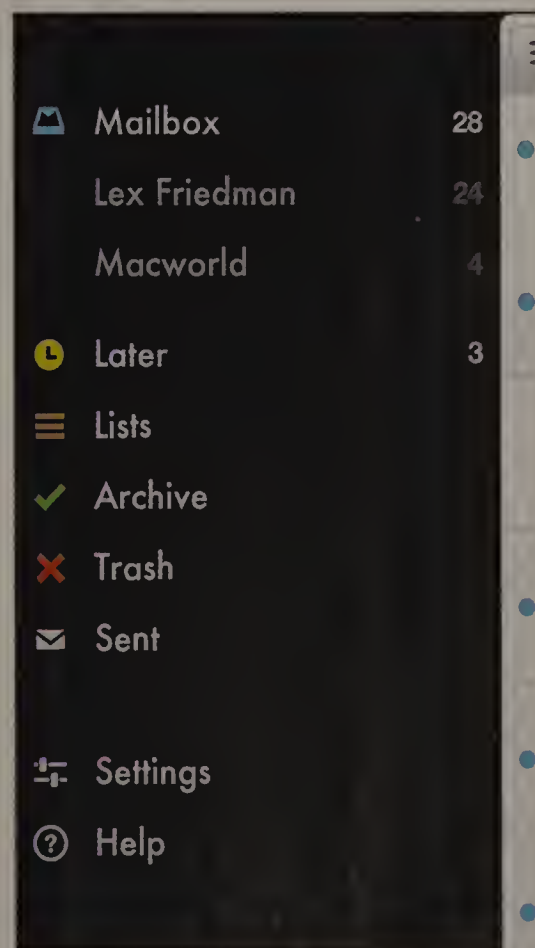
But easy archiving and deleting just scratch the surface of what Mailbox offers. Swipe left on a message—or tap the clock icon in message view—and you can essentially press the snooze button on it. You get a grid of options for choosing when you'd like that message to reappear

An Elegant Solution

In practice, snoozing works beautifully, especially for those users who usually rely on the workaround of leaving unread messages in their inbox. Mailbox offers a more elegant solution. Snoozed messages pop back up—sending notifications on your iPhone, but also moving up in your other email clients, too.

In addition, you can tap and hold on messages in a list to reorder them by dragging. And Mailbox includes push notifications, as well.

The whole app feels beautifully polished, with impressive, discoverable depth: You can mark a message as unread again by tapping its time stamp. Conversations thread with earlier messages collapsed, but you can quickly expand them by tapping them. You can choose whether to receive push notifications for just new messages, just snoozed messages, or both. You can decide whether the app gets a numeric badge icon and what the icon represents—the existence of new messages, indicated by a 1, or the



Email Made Easy Mailbox's icons help you manage your email easily—and that's just scratching the surface.

MESSAGES

BY LEAH YAMSHON

UPGRADE TO



WhatsApp



Kik

Text messaging is an integral part of using a mobile device, and Messages for iOS—specifically its integration with iMessage—makes it a joy to use. But the way Messages works is a little archaic, especially when compared with some newer options in text messaging.

Though alternatives exist, they all have a fatal flaw: They let you communicate only with people who are using the same app. That said, our favorite third-party chatting app is WhatsApp Messenger (\$1; whatsapp.com). WhatsApp sends messages over Wi-Fi, much as iMessage does when messaging from one Apple device to another. That allows you to send textlike mobile messages to your friends with any device or on any carrier without eating up your carrier's text message limit. In addition, you can exchange messages with friends who live outside the United States.

When you first install WhatsApp, the app searches your Contacts (if you allow

It's a Kick A free alternative is Kik Messenger.

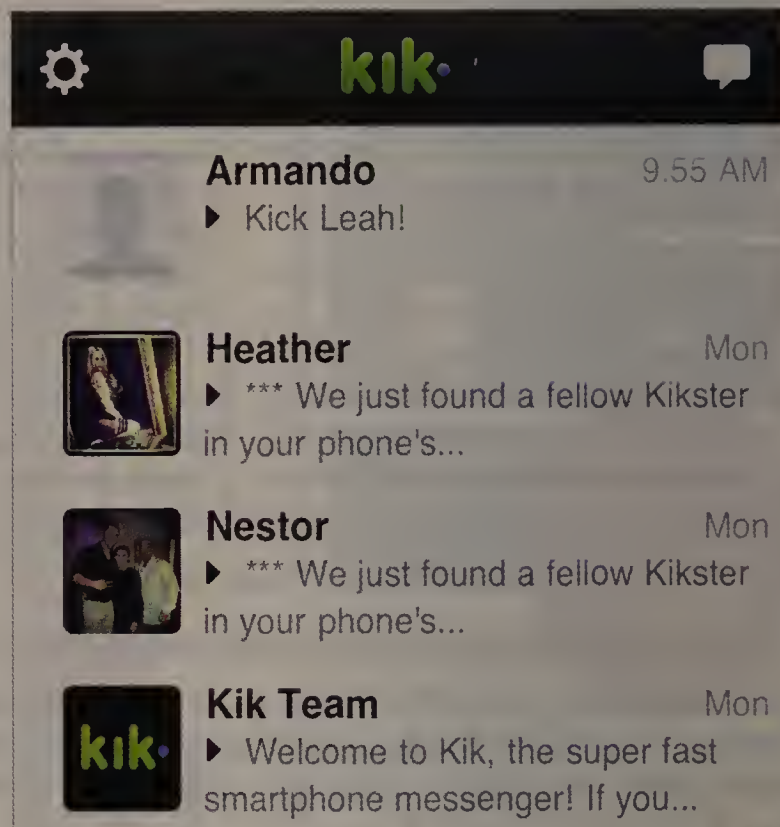
it to do so) to find other WhatsApp users. This step is important, as you can send messages only to other people who are using WhatsApp—the app is available for iOS, Android, BlackBerry, and Windows Phone 8.

Messaging itself is pleasant. You can enable Push Notifications to get a ping whenever you have an incoming WhatsApp message. The messages have a similar layout to iMessages, showing a staggered back-and-forth exchange with your messages on the right and those of your chat partner on the left. When you successfully send a message, you see a small checkmark next to its chat bubble; a second checkmark indicates that your friend on the other side has received and read it.

WhatsApp smoothly handles multimedia messages. You can capture a new photo or video to send (or pull one from your Camera Roll), send an audio note, share a contact, or share a location (the last option is really handy for organizing a get-together with friends).

A close second is Kik Interactive's Kik Messenger (free; kik.com), a messaging platform that allows you to send notes to other Kik users. It's not as full-featured as

Text Chatting WhatsApp Messenger lets you exchange text messages with other users.

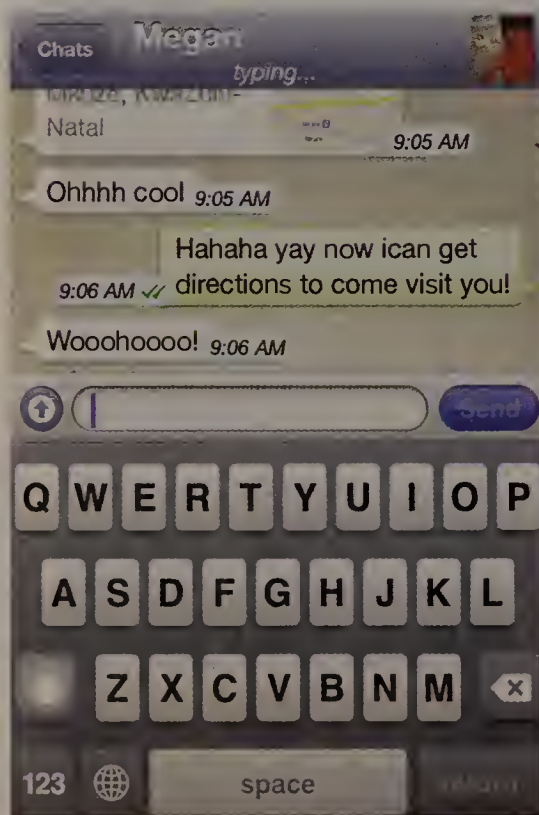


WhatsApp, but it is available on the same platforms: iOS, Android, BlackBerry, and Windows Phone 8.

Kik requires you to enter your name, email address, and phone number (kept private by default), along with a username and password to get started. When the app is installed, Kik searches through your iPhone's contacts for other Kik users you can message with.

Chatting is pretty smooth. The app stores your entire conversation thread, with your messages on the right and your partner's responses on the left. As in WhatsApp, when you send a message successfully, a small checkmark appears next to your speech bubble; when your friend reads it, a small letter *R* appears next to the checkmark.

Sending multimedia messages is quick and painless as well. Tap the plus button (+) next to the text box to access your Camera Roll or to take a new photo. But unique to Kik is its interactive extra features: Slide to the left from your main inbox and tap *More*, and you can access attachments such as YouTube videos.



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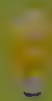
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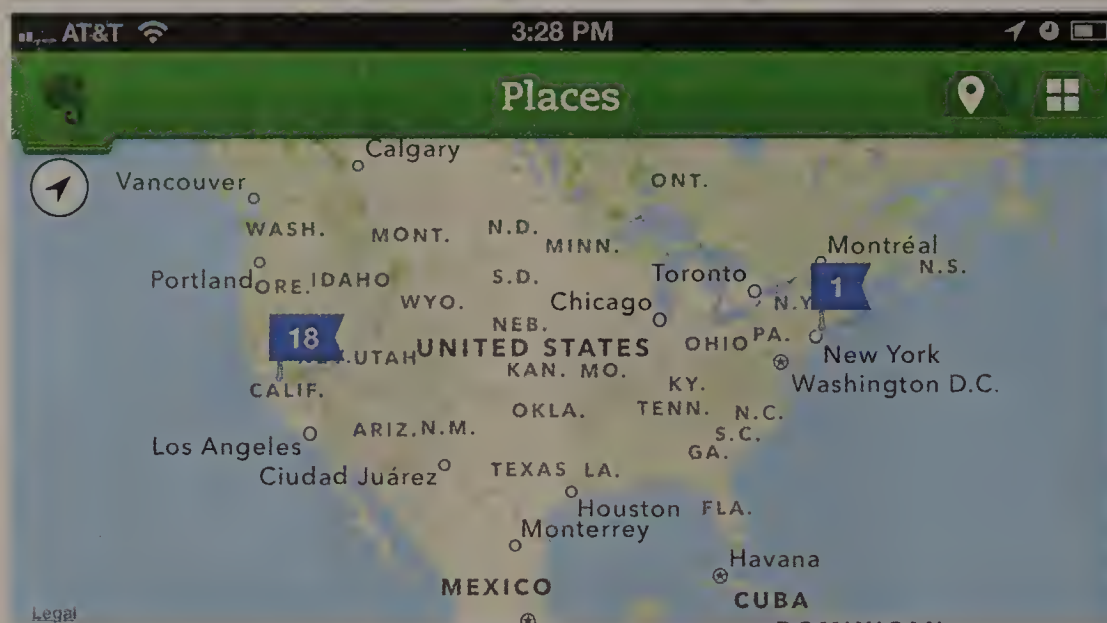
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Where Was It? Flags show the locations tied to specific notes.

the screenshot at left, flags on the map indicate locations that are associated

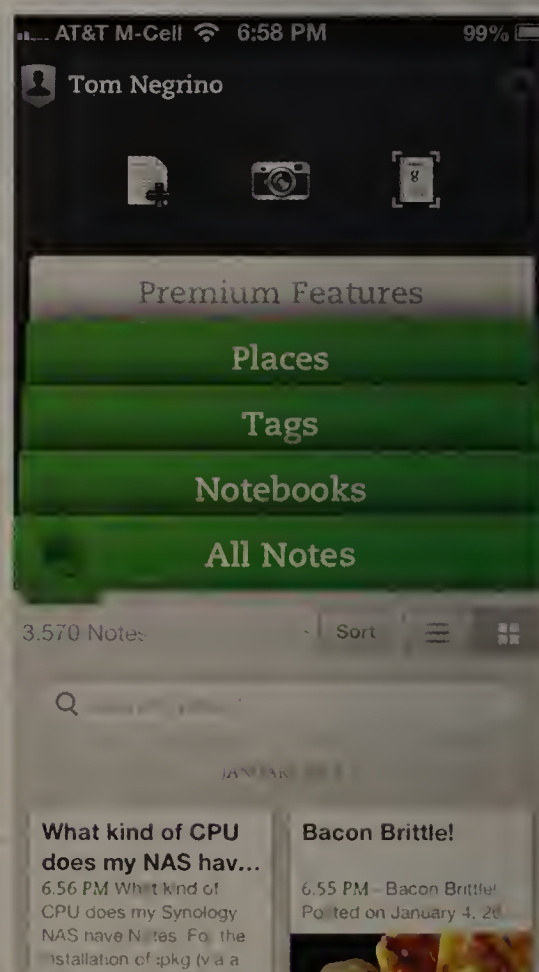
with the notes. You simply tap a flag to bring up the notes from that place.

The new interface does have a few annoyances. If you make the common gesture of swiping rather than tapping to close an expanded tab, you can easily invoke Notification Manager by accident. And on the iPad, the Card view of your notes isn't as information-dense as the simple list view that was found in older versions of Evernote.

No Marker Felt

All the same, whether you are totally new to Evernote or are just getting around to upgrading to the latest version, you'll find that the new iOS version of Evernote makes the experience of capturing and retrieving your notes faster and smoother. It syncs with Evernote clients on the Mac and on the Web, and it offers greater note-taking options than Notes does.

And best of all, you don't have to type your notes using the Marker Felt font.



Four Views Evernote 5's tabs give different views of your notes.

NOTES

BY TOM NEGRINO

UPGRADE TO



Evernote

Apple's Notes app is great if you need to quickly jot something down and have the item sync with your Mac and your iCloud account on the Web. But it runs into challenges when you attempt to sync anything more substantial.

Evernote (free; evernote.com), the note- and snippet-management service, offers both basic note-taking and advanced organization. The iPhone client sports an all-new interface that simplifies the process of capturing new notes and improves Evernote's organizational tools.

To begin creating a note, you use one of the three new—and prominent—Quick Notes buttons. All versions of Evernote permit you to type text notes and to take photo notes with your device's camera. A new mode for iOS clients, Page Camera, masks images to take pictures of pages with handwritten notes from special Moleskine paper notebooks, dubbed Evernote Smart Notebooks.

After you capture a note, Evernote automatically uploads everything that you put into it to the company's servers, where your notes are indexed for easy search and retrieval, and become available for syncing to all your devices. If your new item is a picture containing words (even

handwriting), Evernote runs optical character recognition on its servers to make the picture's text searchable.

New Interface

The previous versions of Evernote for iOS employed a standard iOS interface. For example, on the iPad, Evernote presented a scrollable list of notes on the left side, flanked by a large area to the right for displaying the selected note, and toolbars at the top and bottom. Evernote 5 has completely refreshed the interface—successfully, for the most part. Notes now appear in four different views: All Notes, Notebooks, Tags, and Places. Tapping a tab header expands the tab to take up most of the screen and to display its contents. Tapping or swiping down on the tab's header closes it.

The All Notes tab shows all of your notes, without further organization. If you would prefer to use Evernote's organization tools, you can find them under the Notebooks or Tags tabs. The new Places tab, which is the same as the desktop version's Atlas view, shows notes (most often photographs) with geolocation tags on a zoomable map; as shown in

REMINDERS

BY LEX FRIEDMAN & DAN MOREN

UPGRADE TO



Clear



Checkmark

Apple's stock Reminders app is pretty bare-bones, but it integrates tightly with Siri, offers location-based reminders, and gets the job done for some people. The App Store is rife with more-complex task-management offerings that add filters, priority-based sorting, tags, contexts, and plenty more. Two provide nice variations on Reminders.

Controlled With Gestures

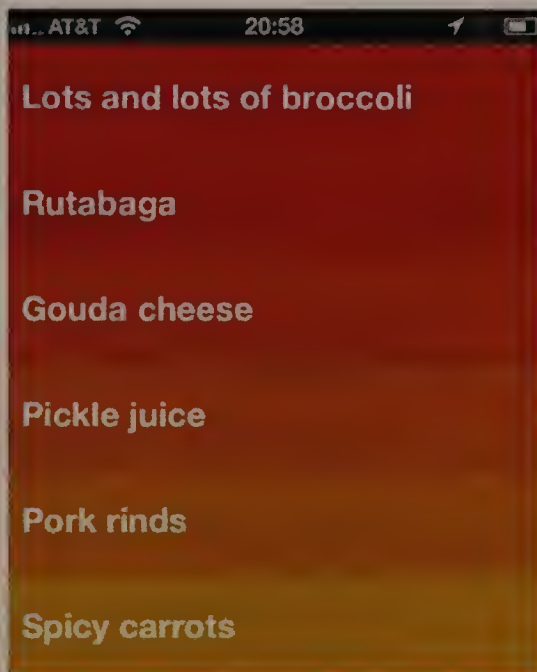
Clear (\$3; realmacsoftware.com) sports a simple, no-frills interface that's about as basic as you can imagine: no reminders, no location-aware alerts—not even due dates or notifications.

Upon first launch, Clear steps you through the process of using the app—you control it almost entirely with gestures, but the gestures are ones that iPhone users are well-acquainted with: swiping, pulling, pinching, tapping, and so on.

The app has three levels of hierarchy. At the top is a menu, which contains My Lists, a variety of themes to choose from, a set of tips and tricks to refer to, and the program's meager settings.

Tap My Lists in the menu to drill down to the second level, where your lists live. Next to each list is a number showing how many items it contains (excluding completed tasks). You can create a new list in one of three ways, depending on where you want it to appear. To create a new list at the top, swipe downward on the screen and release; you'll see the top of the screen flip over in faux-3D fashion, just as iOS banner notifications do. To create an item at the bottom of the list, tap anywhere below the last list.

Type in your list's name, and you're all set. When you want, swipe left on it to delete it. (If the list has uncompleted items, you'll be asked to confirm deletion.) Or swipe right on a list to complete



Color Scheme Clear implicitly prioritizes list items by putting them in a descending order of colors.

all its items. To view the items, tap the list.

You create a new to-do item the same way you do a new list—by pulling down on the list and releasing, tapping in the spot below the last item, or pinching two items apart. As with lists, you'll be asked to enter the name of the item.

To mark a list item as complete, swipe it right; it'll flash green and slide to the end of the list, where the text will appear struck through and grayed out. If you cross an item off prematurely, swipe it to the right again to reinstate it. To delete an item entirely, swipe it to the left, and it'll vanish. (But you can't undelete an item.)

Clear's lists can sync via iCloud to your other devices, or to Clear (\$10) on the Mac.

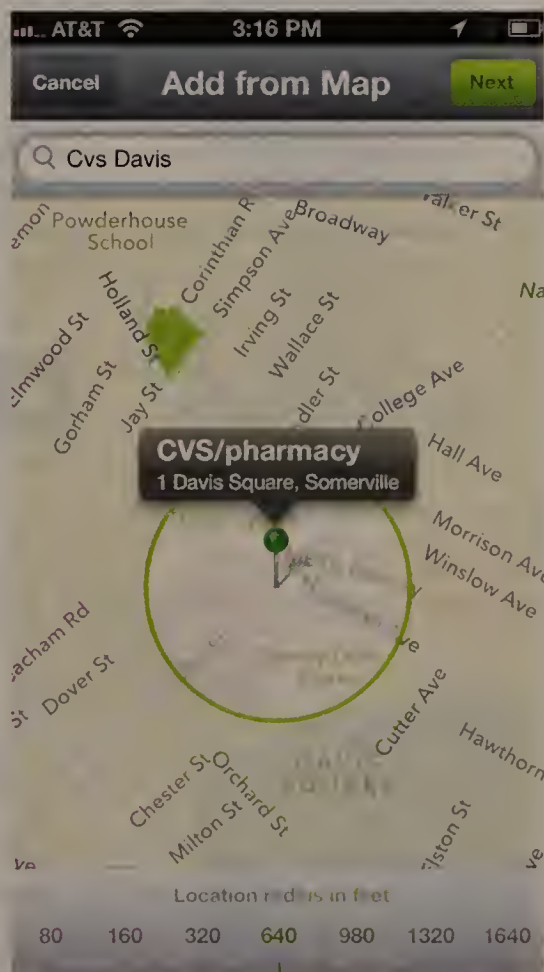
Our second Reminders alternative is Checkmark (\$5). This new app from developer Snowman (builtbysnowman.com) ups the ante with a superior implementation of one of Reminders' key features: namely, location-based reminders.

Location, Location Set up location-based reminders in Checkmark.

Checkmark addresses most of Reminders' issues in a sleek, efficient interface.

The app is broken down into two handy lists of reminders: Where, for location-based reminders, and When, for time-based reminders. You switch between the two using the Where and When buttons at the bottom of the screen. You won't find custom lists here; every reminder is tied to either a place or a time. Checkmark has no system for prioritizing tasks; if you need that functionality, this app isn't for you.

Checkmark's location-based reminders trump those of Reminders. The app uses custom iOS home-screen-style pages of frequently visited locations. You add a location by using your current location, searching for a point of interest on a map, importing an address from your Contacts, or manually entering an address. So you can easily add not only locations such as home or work, but also other places.



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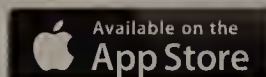
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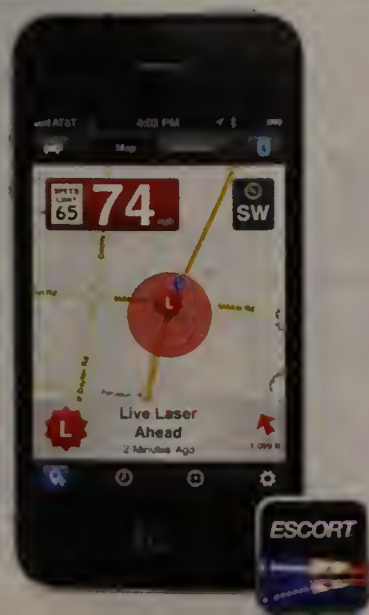
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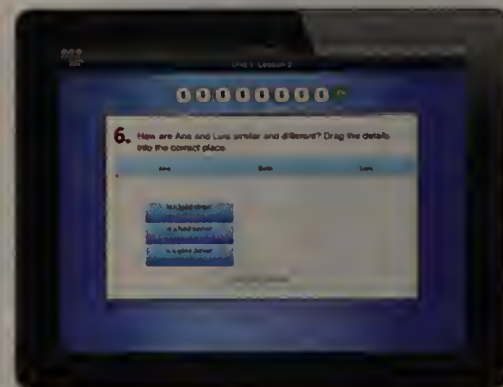
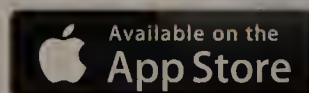
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Working Mac

Tips, Tricks, and Tools to Make You and Your Mac More Productive

Do More With Messages

Go beyond chatting to explore this tool's powerful hidden options.

BY CHRISTOPHER BREEN

Mountain Lion's Messages can help you keep in touch with coworkers and friends. But the app hides some less obvious features, including screen sharing, remote slideshows and presentations, and the ability to view past chats.

Share Your Screen With Messages

Messages lets you see and control the screen of another Mac over the Internet. This invaluable feature enables me, as Tech Expert of the Family, to troubleshoot a relative's or friend's computer from clear across the country. We share the

This invaluable feature enables me, as Tech Expert of the Family, to troubleshoot a relative's or friend's computer from clear across the country.

screen: I tinker with a few things, and I let them know what I'm doing as I do it. As we share, we can talk to one another via the Mac's microphone and speakers, avoiding the cost of a long-distance call.

Someone probably plays a similar role in your circle of friends. If you need help, this is an easy way for that person to provide it.



This kind of screen sharing is great for collaboration because the two of you can take turns controlling the cursor and screen. Remember, however, that both of you can't control the mouse or trackpad at the same time. In fact, competing for control is like fighting over a Ouija board possessed by uncooperative spirits.

Get started with screen sharing: To start screen sharing, each person must use the same kind of account—AIM, Bonjour, Google Talk, or Jabber. Screen sharing is unavailable through the iMessage protocol (meaning two iCloud accounts) or Yahoo.

To share someone else's screen, select that person's name in your buddy list and,

from the Buddies menu, choose *Ask to Share [PersonX]'s Screen* (where [PersonX] is the person you want to interact with). That person will receive an invitation via an alert sound and a dialog box. To allow their screen to be shared, they simply click the dialog box. They can also elect to send you a text reply. For example, if they are in the middle of something, they can just click the *Text Reply* button and type "I can't right this second. Try again in 5 minutes," or the like.

Conversely, you can share your screen with another person. To do so, select the person and choose *Buddies → Share My Screen With [PersonX]*. Your buddy will receive an invitation and can accept it by clicking the dialog box that appears.

Stop screen sharing: To end sharing of your screen, look in the menu bar for a flashing orange screen-sharing icon. Click this icon and then choose *End Screen Sharing*. The connection will

break. To end sharing of a remote screen, click the small *My Computer* window to view the remote screen and then close the small shared-screen window. Alternatively, you can choose *Buddies → End Screen Sharing*.

Share Slideshows and Presentations

You can do more during your Messages chat session than just talk. If you're linked by a video chat, you can share images and presentations. This feature is a tremendous business and collaboration tool. I routinely use the function to give remote presentations to business groups.

Start your video chat: First, establish a video chat between you and your buddy. (Both of you must use the same service—AIM, Bonjour, Google Talk, or Yahoo.) To enable video chatting, select *Video → Video Chat Enabled*, and then click the camera icon next to the person's name in the Buddies list to initiate the chat. To accept your invitation, the buddy must click a dialog box that appears on their screen—at which point, the video chat will begin. If you'd like to chat with more than one person (Messages supports video chatting with up to three other people), hold down the ⌘ key and click the name of each person you wish to chat with. Then click the camera icon next to one of the selected individuals.

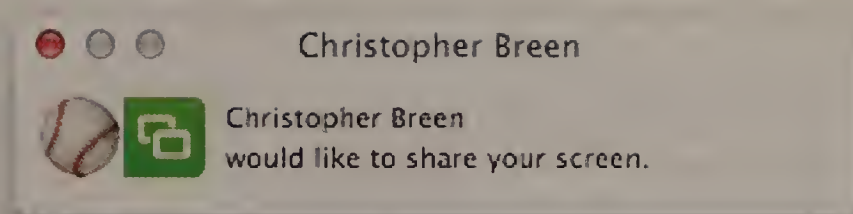
You'll see your image in the smaller window in one of the chat window's

corners (you can drag the small window anywhere you like) and a larger portion containing your buddy's image as projected by that Mac's camera.

Share an image or presentation: To share an image with someone, drag it into the video chat window. When you do, you'll see that the window has two main areas. The upper area reads 'Send to BuddyX', while the lower area says 'Share With Theater'. Drag the image into the window's lower area, and it will expand to fill most of each participant's video chat window. You'll still be able to see the other person in a smaller window in one of the corners, so the person sharing the image can narrate and you can respond.

But I mentioned slideshows, right? Correct. If you drag multiple images into the video chat window, Messages will begin a slideshow consisting of those images. You can let the slideshow run automatically, pause it by clicking the *Pause* button (and unpause it by clicking the *Play* button), and manually click backward or forward through the images by clicking the program's back and forward arrow buttons.

This feature works especially well for sharing a PowerPoint or Keynote presentation. Suppose that I wanted to hold a



Ask Permission You can't use Messages to share a screen without first obtaining the other person's permission to do so.

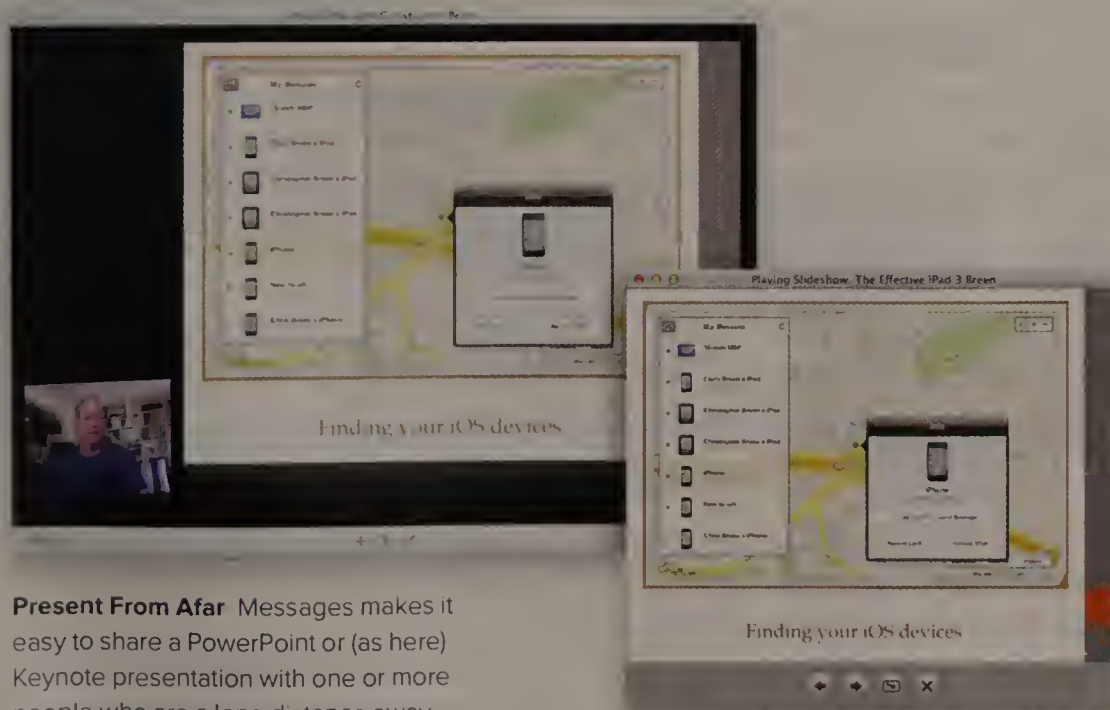
remote meeting with England's Poison Oak Fancier's League, to conduct a 15-minute presentation on the plant's itch-producing properties. All I would have to do is drag my presentation into the Share With Theater area of the window. If it were a PowerPoint presentation, I could use back and forward buttons to navigate through it. If it were a Keynote presentation, my copy of Keynote would launch, open the file, and offer me a slideshow window for controlling my presentation. As in the case of a projected slideshow, viewers on the other end would see my face in a smaller window in a corner.

Capture Your Conversations

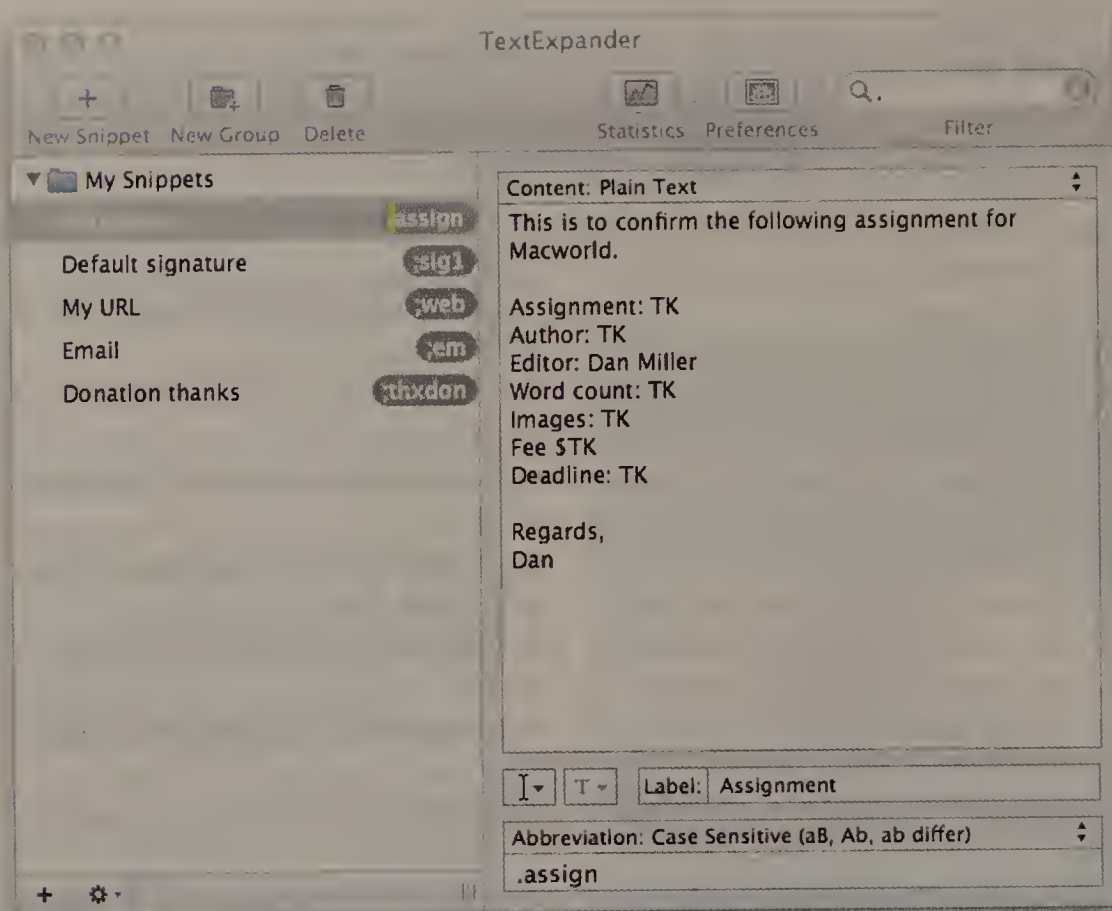
To keep a copy of your online chats, choose *Messages → Preferences*, select the *Messages* tab, and enable the *Save History When Conversations Are Closed* option. From this point on, your conversations will be archived.

To locate archived messages, go to the Finder, hold down the <Option> key, and choose *Go → Library*. In the Library window that appears, open the *Messages* folder and then open the *Archive* folder. Inside this folder are a series of folders named by their dates. When you open a folder, you'll find files reflecting any chats that you held on that date. You can open the files in Messages, or you can select one of them and press the spacebar to view it in a Quick Look window.

No doubt everyone you chat with is completely trustworthy and would never stoop to using your chats for nefarious purposes. Still, it's worth knowing that whatever you type in Messages can be archived. So, as with any other kind of communication, it's best to not put into words anything that you don't want repeated outside your control.



Present From Afar Messages makes it easy to share a PowerPoint or (as here) Keynote presentation with one or more people who are a long distance away.



Work More Efficiently With TextExpander Snippets

Type less by tapping into this utility's powerful timesaving abilities.

BY DAN MILLER

Among our favorite utilities at *Macworld* is Smile's \$35 TextExpander (🔗🔗🔗🔗; go.macworld.com/textexp4). For people who type for a living, TextExpander—or a similar app such as Ettore Software's \$20 TypeIt4Me (🔗🔗🔗🔗; go.macworld.com/typeit4me) or Startly's \$60 QuickKeys (🔗🔗🔗🔗; go.macworld.com/quickkeys4)—quickly becomes indispensable.

TextExpander enables you to insert fixed bits of text—or “snippets”—by typing short abbreviations. For example, you could create a snippet called Date that inserts the current date whenever you type an abbreviation (I use **.date**), followed by a designated delimiter (I use the backslash key, \). Once you start assembling your library of snippets, they quickly become an integral part of your workflow. Here are some of the snippets I use the most.

Email Signatures

A snippet can be any little chunk of text that you find yourself typing frequently—items such as phone numbers, email addresses, or email signatures.

I use a couple of different email signatures, depending on whom I'm mailing. I could instead use Mail's built-in signature

A snippet can be any little chunk of text that you find yourself typing frequently—items such as phone numbers, email addresses, or email signatures.

tools, but I find them relatively clunky to work with; using TextExpander is a lot easier. First I compose my email message, and then at the bottom I type out the TextExpander shortcut for the email

Type Less Instead of repeatedly typing boilerplate text, create a TextExpander snippet that will perform the task for you.

signature that I want to use—in this case, **.form**. In response, TextExpander inserts my formal email signature.

Boilerplate Text

Beyond using it to insert small snippets, I rely on TextExpander to insert blocks of boilerplate text that I use a lot. For example: the body texts of email messages that I have to send frequently—like assignments to writers and requests for paperwork. One particular form email is 15 lines long. Though I use it only a few times a month, I hated having to type it out every time. So I made it into a TextExpander snippet.

HTML Code

Because *Macworld* editors frequently publish things on the Web, we have to write in HTML at times. I could hand-code everything, but that's a hassle. Better to let TextExpander do the dirty work.

The key here is the app's ability to insert the contents of the clipboard—using a special TextExpander clipboard variable, **%clipboard**—inside a snippet. That allows you to copy a bit of text and click a TextExpander shortcut so that TextExpander pastes the copied text inside a snippet—in this case, inside pairs of HTML tags. I have snippets for paragraph, bold, and italic tags; anchor tags; and other common bits of HTML.

Google Operators

One convenient snippet that I use multiple times a day is a Google search

operator—**site:macworld.com**—that searches Macworld.com. When I want to find something on our site, I can navigate my browser to Macworld.com and use our own search tools. But because I use



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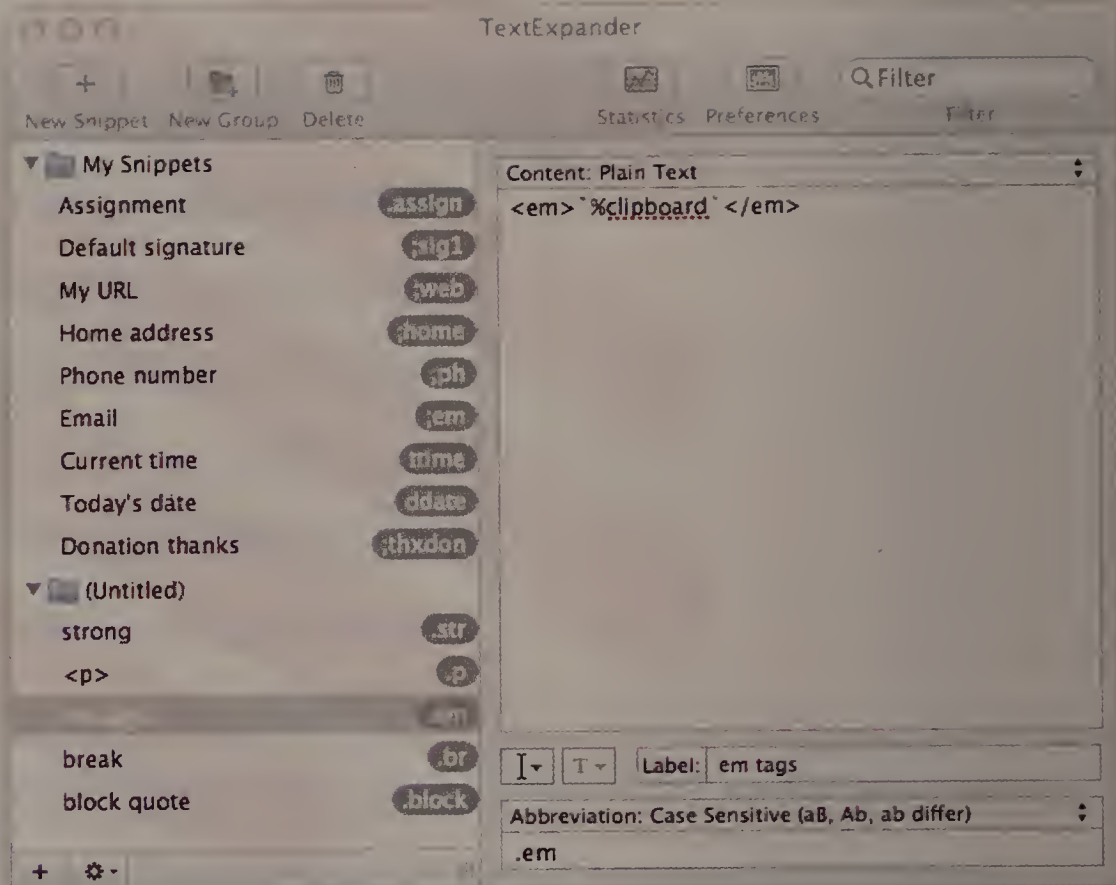
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Google Chrome, with its unified search/address bar, I can instead type whatever search term I'm looking for, followed by a TextExpander shortcut that inserts the Google operator **site:macworld.com** to limit the Google search to just our site. You could do the same for any search operators you use most often.

Text Formatting

Macworld editors spend most of our workdays dealing with text, including futzing around with the formatting of text we're copying from one place to another. Again, many utilities will help you do this. But because it's effective in any app you're running, TextExpander is an especially handy tool for the job.

For example, I often need to copy text from a webpage to another app. By performing the usual ⌘-C/⌘-V operation, I can copy and paste that text with all of its Web formatting intact. But usually I don't want to transfer the formatting; I just want simple, plain text. Tools built into various apps or third-party utilities can perform the paste-as-plain-text task. But I learned a simple trick from David Sparks: First, create a snippet consisting of just the **%clipboard** variable I mentioned earlier. Then, after copying whatever text you want, invoke that snippet (I use the shortcut **:plain**) to paste the copied text without any of its formatting. (To ensure that the trick works, go to *TextExpander* →



Preferences and confirm that the Default Snippet Format is set to *Plain Text*.)

I also use some snippets based on Perl scripts that I found on a blog called Thought Asylum (go.macworld.com/asylum). These scripts convert the case (capitalization) of copied text, turning whatever you've copied into all lower-case, all uppercase, title case (with every word's first letter capitalized), or sentence case (with the first word of every sentence capitalized). They're pretty handy.

HTML Shortcuts Avoid typing HTML tags by using snippets to quickly enclose copied text between the appropriate tags.

The only drawback of using a utility like TextExpander is keeping track of all the abbreviations you set up. I periodically go through my snippet library and delete the ones I don't use. While I'm there, I refresh my memory of the ones I have. Otherwise, TextExpander is a supereasy utility to use—and one I couldn't live without.

ECBC Hercules

ECBC's \$140 Hercules (www.ec-bc.com) backpack features a plethora of pockets and extremely durable materials. The backpack complies with TSA FastPass standards, so you can unzip the laptop compartment and lay it flat while going through airport security. The Hercules's larger size accommodates lots of stuff, and its smart design keeps it comfortable to wear. The dedicated laptop compartment, which can hold a 17-inch MacBook or smaller, features additional (and removable) foam spacers. Two zippered side pockets are designed to hold water bottles. A front organizational compartment sports four pouches, and two small zippered pockets embellish the front of the bag. Constructed from water-resistant material, the Hercules comes with ergonomic shoulder straps, breathable mesh padding on the back and straps, and a cushioned handle. If you commute a long distance or often travel for work and need to haul lots of gear, the Hercules is a more-than-capable companion. Color choices include black, blue, green, linen, and berry.—AMBER BOUMAN

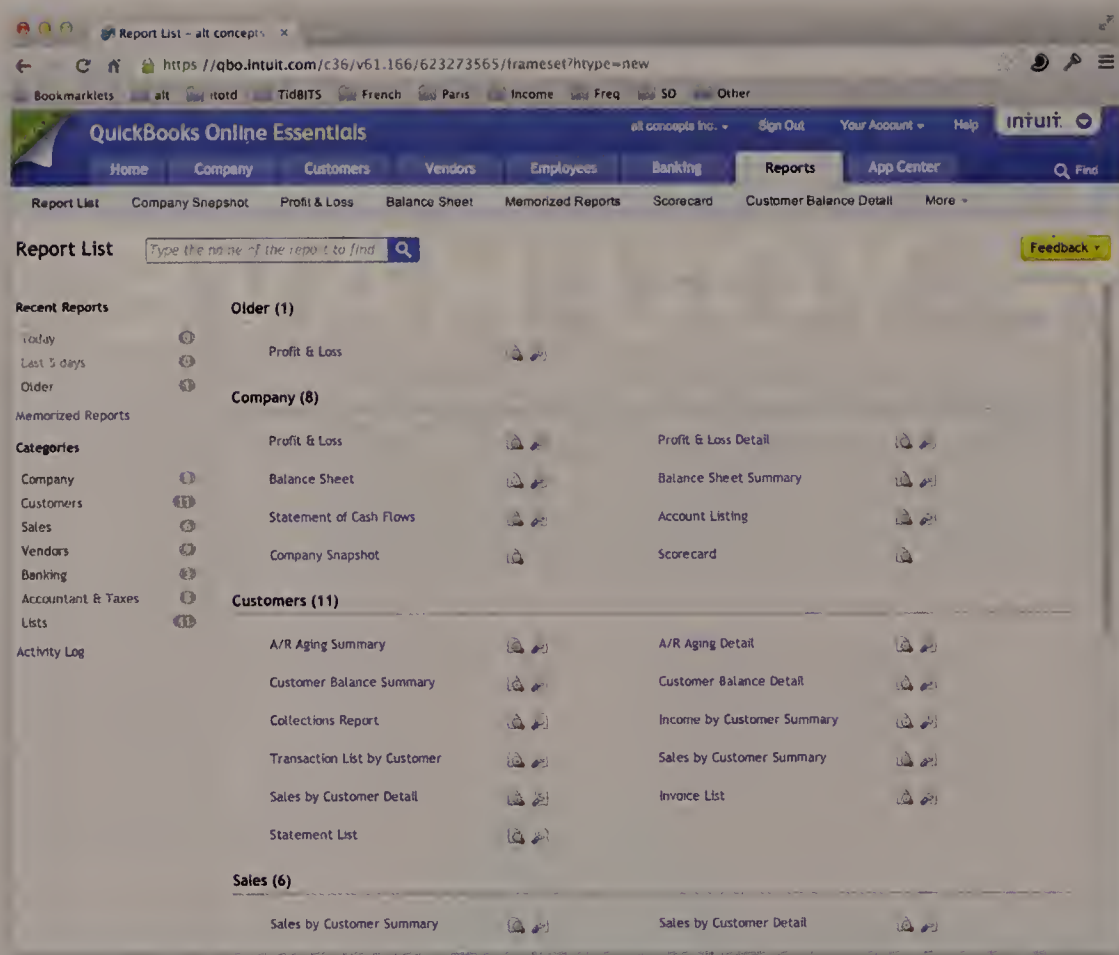


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When QuickBooks for Mac Is the Wrong Choice

How one small-business owner decided among Intuit's offerings.

BY JOE KISSELL

My wife and I are professional writers. A few months ago, on the advice of our accountant, we reorganized our small business as a corporation. We agreed to endure a considerable amount of extra paperwork in exchange for significant financial and legal benefits.

Accountants Love QuickBooks

Our accountant all but insisted that we use QuickBooks so that she could easily view and update our financial records. Unfortunately, data files in the Mac version of QuickBooks 2013 (🔗; go.macworld.com/qb2013mac) aren't cross-platform compatible. To share data with our Windows-using accountant, we'd have to back up the data in QuickBooks for Windows format and send her that file, which she could then "restore." Eventually, she

would send the edited file back to us to reimport. But in the meantime, we would not be able to change our company's data, because—unlike QuickBooks for Windows—QuickBooks for Mac doesn't permit you to merge an accountant's changes into an existing file. Grrrr.

Well, I thought, I'll just buy the Windows version. After all, thanks to VMware Fusion (🔗; go.macworld.com/vmwfusion), I have Windows 7 running on my Mac. But while the Mac and Windows versions of QuickBooks 2013 cost the same—\$250—for a single-user license, my wife and I would each need to work in QuickBooks,

Unlike QuickBooks for Windows, QuickBooks for Mac won't permit you to merge an accountant's changes into an existing file. Grrrr.

Online Option QuickBooks Online can do nearly everything that the desktop version of QuickBooks can, including producing reports.

sometimes concurrently, on different computers. That raised the price to \$500, not counting the cost of future upgrades.

Outwitting File-Format Foibles Online

Then I noticed a third option: QuickBooks Online (quickbooks.intuit.com/online), which rolls most of QuickBooks into a Web-based app. We wouldn't have to mess with Windows software or with exporting and importing files, and our accountant would have access to our data over the Web.

Web apps often have less-convenient interfaces than desktop apps do, but the cost won me over. Pricing for QuickBooks Online ranges from \$13 to \$79 per month, depending on the features you need. I went with the \$27-per-month QuickBooks Essentials plan, and my bookkeeper was able to get me a discounted rate of just over \$20 per month for a year. So for a year's worth of service for three users, we're paying less than half of what a two-user license for the Mac or Windows version costs. And though we haven't yet needed the feature, we can also access our account via QuickBooks Online for iPad (🔗; go.macworld.com/qbonlineipad).

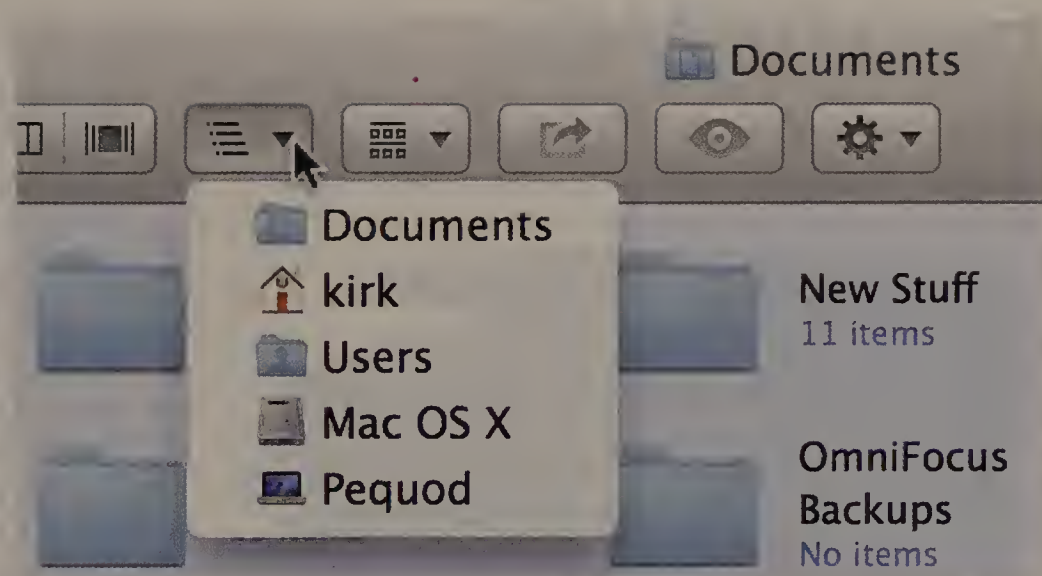
While QuickBooks Online has all the features we need, using it hasn't been entirely smooth sailing. In particular, it's finicky in Google Chrome, my current browser of choice. For example, though I instructed Chrome to let the site open pop-up windows, most of those windows are far too small and I have to resize them manually. Check printing works, but I can adjust only the overall alignment, not the location of individual form elements—some of which don't line up correctly on our check stock. On the whole, however, the online version has performed well.

And I've learned that sometimes the best tool for a Mac isn't a Mac app.

Eight Easy Ways to Move Between Folders in OS X

Save time by becoming Finder savvy.

BY KIRK McELHEARN



You probably spend a lot of time moving in and out of folders in the Finder as you navigate among your files and apps. But you may be surprised to learn that OS X gives you many ways to move up a folder in the Finder. Here are eight of them.

1. From the Keyboard

This trick lets you move to the folder enclosing the current window's contents. With a Finder window open, press ⌘ -<Up Arrow>, and your Finder window will shift to show the enclosing folder.

2. From the Finder Toolbar

If you double-click a folder to enter it, returning to the folder above it is easy: Click the *Back* button in the Finder toolbar.

If you entered a folder in some other way, however, the Back button will take you to the folder you were in previously.

Bonus tip: Click and hold the Back button to see a list of folders that you've accessed since your last login or restart. Click an entry in the list to return to a folder that you visited recently—without having to navigate in the Finder.

3. From the Finder Window Title Bar

The title bar of a Finder window gives the name of the current folder, and includes a proxy icon for that folder. Hold down the ⌘ key and click the icon to see the directory structure for the current folder and all of the folders above it. You can select the

folder just above it to go up one level, or select any other folder in the list to jump higher up in your Mac's file structure.

4. From the Finder's Path Bar

With the Path Bar displayed (in the Finder, select *View* → *Show Path Bar*), you'll see the full path to the current folder. This display is like what you see after ⌘ -clicking the proxy icon, but it's arranged horizontally and always visible. To move to another folder in the Path Bar, double-click it.

5. From the Path Button in the Finder Toolbar

The Finder's toolbar can include a Path button, too. (Choose *View* → *Customize Toolbar*, and drag the Path button to the Finder toolbar.) When the Path button is visible, click and hold it. It will display the folder hierarchy, just as the proxy icon does. Select the folder you want to open.

6. Using an 'Up' Button in the Finder Toolbar

Though Apple doesn't include an 'Up' button in the Finder toolbar, you can add one. Download Teki's free Up Button app (go.macworld.com/tekiup). After installing it, go to your Applications folder, find the Up app, and drag it to the Finder toolbar.

Path Button The Path button shows a pop-up menu of the current folder hierarchy.

Wait a second until your cursor changes to a green plus-sign (+) icon; then drop the Up button wherever you want it. Click that button to go up a folder at any time.

If you prefer a do-it-yourself option, you can make a similar button with AppleScript, as outlined in an online Mac OS X Hints tip (go.macworld.com/gotoparent).

7. In Column View

The above methods work in all Finder window views. But if you use Column View (choose *View* → *as Columns*), you can use the <Left Arrow> key to move up in the Finder—a more logical option visually than pressing ⌘ -<Up Arrow> (which also works).

8. In List View

When you're using the Finder's List View (*View* → *as List*), you can navigate easily using the arrow keys. The <Up Arrow> and <Down Arrow> keys let you move around in the list. You can go up a folder by pressing ⌘ -<Up Arrow>, and you can enter a folder by pressing ⌘ -<Down Arrow>. If you press ⌘ -<Right Arrow>, you'll see the entire list, plus the contents of the selected folder.

Though Apple doesn't include an 'Up' button in the Finder toolbar, you can add one if you first download and install Teki's free Up Button app.

Reviews

Hardware and Software for All Your Business Needs



Hardware

HP OfficeJet Pro 276dw

★★★★; \$375; HP; hp.com

Though expensive, HP's OfficeJet Pro 276dw is an excellent inkjet multifunction printer that supports ethernet, Wi-Fi, and USB. The 276dw also installs easily, produces nice output quickly, and has low ink costs.

The MFP sports a 4.3-inch touchscreen control panel with a well-thought-out menu structure. Management features include email alerts, a firewall, and proxy support.

Output text is near-laser-quality, and color graphics are very nice overall. Plain-paper photos appear a little washed out, but they look good embedded in newsletters and the like. Color photos on glossy paper are excellent, though with slightly orangish skin tones. A greenish tint persists in monochrome graphics printed via PostScript on the Mac. Scan quality is top-notch.

In tests, the 276dw printed text pages (which included a few simple monochrome

graphics) at 13 pages per minute on the Mac. A full-page photo printed at best quality took 2 minutes, 15 seconds on the Mac. An informal test in which we printed a simple Excel spreadsheet dragged to a surprising extent, though we couldn't determine where the fault lay; look for driver updates.

Ink costs for the 276dw are outstandingly low, especially if you purchase XL supplies: 1.6 cents per page for black and 5.6 cents per page for cyan, magenta, and yellow; 7.2 cents per four-color page is far less than you'll spend with a laser printer at anywhere near the 276dw's price, and cheaper than most inkjets. The normal-capacity supplies work out to about 12 cents for the same four-color page.—JON L. JACOBI

Epson Expression Home XP-410 Small-in-One

★★★★; \$100; Epson; epson.com

Pricey ink cartridges aside, the Epson Expression Home XP-410 Small-in-One offers good output quality along with basic multifunction features.

This compact inkjet MFP has a flatbed letter/A4 scanner on top and a 100-sheet rear vertical feed. Paper exits into a front output area.

The tiltable control panel includes a 2.5-inch color display and context-sensitive touch controls that light up only when needed.

USB and Wi-Fi 802.11b/g/n are available for connecting directly to a Mac or a wireless network. Front slots take SD or MS Duo media cards. Apple AirPrint and Google Cloud Print compatibility support mobile printing.

Photos showed good overall color accuracy and realistic contours and shadows. Flesh tones were pinkish but credible. Even photos printed on plain paper, though a little grainy, looked fairly bright and accurate. A color copy on plain paper was gorgeous. The XP-410 also produces surprisingly good text. Edges look inkjet-soft, but not fuzzy.

Test documents consisting of plain, black text and small

monochrome graphics printed at 6.4 pages per minute. The XP-410 took 3 minutes to print a full-page photograph on the Mac at best settings.

The 500-page, \$30 XL black cartridge costs 6 cents per page, and the \$17, 450-page cyan, magenta, and yellow XL cartridges are 3.8 cpp each, totaling 17.4 cents for a four-color page. In the standard capacities, black costs 7.4 cpp, and each color 5.4 cpp. But 23.6 cents for a four-color page is pricey, even in the entry-level category.—MELISSA RIOFRIO

Software

Chatology

★★★★; \$20; Flexibits; flexibits.com

Flexibits' new Chatology app aims to revitalize Messages' search feature (which many Mac users dislike), providing advanced functionality for finding well-buried messages.

To search in Chatology, you enter a search term in the field in the top right of the window.





In response, the app returns a list of matching results. You can also choose to search for conversations that contain that term, or places where that term appears as a name.

Whereas Messages finds a string even if it's inside a word (as, for example, *in* appears within the word *think*), Chatology searches for the term as a whole word. The latter method usually yields better results.

A bar on the top of the window lets you choose from certain time windows as filters, including all messages, only messages sent today, those sent in the past 30 days, or those sent in the past year.

The leftmost pane breaks down conversations by person. Select a person, and you will see a list of dates when you conversed with them. But if you converse with someone via phone number and via email address, they'll appear as two separate contacts.

In the rightmost pane, you can filter by conversation (text), images, and links. For both links and images, you can click an arrow icon to go directly to their location in the conversation at large.

Unfortunately, Messages' logs are a bit of a mess. Often you'll see duplicates of the same conversation, or excerpts of a larger part of the conversation. And because Chatol-

ogy pulls from these archives to provide search results, its results suffer from the same tendency toward repetition.

Another problem: When I selected a conversation log and clicked the Delete button in the toolbar, the conversation stayed put—because (as it turned out) Chatology had several duplicates of the same conversation. Each time I tried to delete, one went away, but others remained.—DAN MOREN

Glipho

📱📱📱; free; Glipho; glipho.com

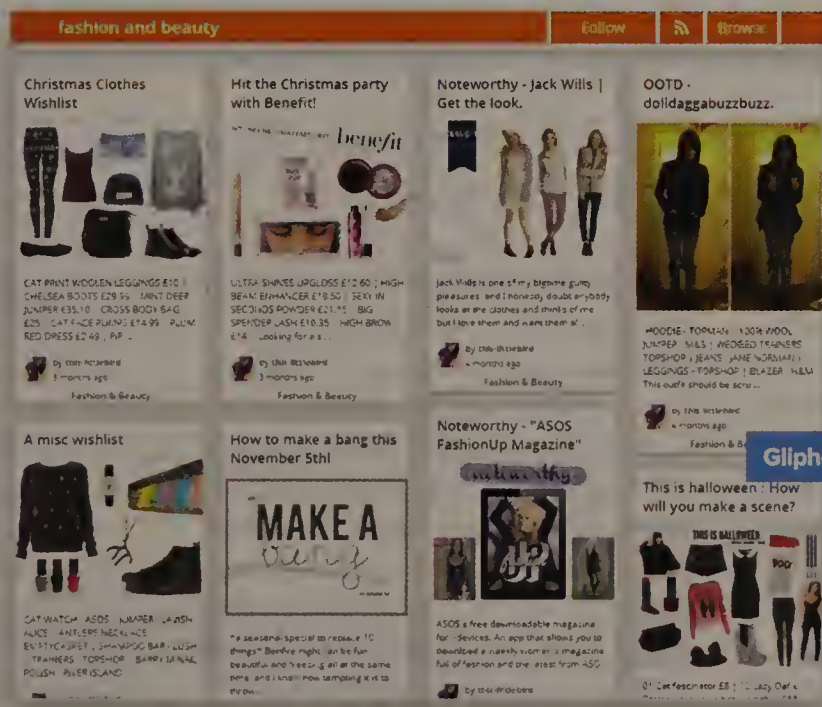
Billed as “the social publishing engine,” the cloud-based Glipho aims to build a social community of writers and help them increase their visibility.

You sign up via an existing

Facebook, Google, LinkedIn, or Twitter account, and build your Glipho feed by picking writers to follow, though you must select them based on a broad topic area like “technology” or “sports,” without seeing their writing at first. You can fine-tune these selections later, as you browse the site.

On its homepage, Glipho posts content from trending writers, as well as from others the Glipho team chooses to highlight. You can search for specific content, or browse by interests, topics, writers, and more. The layout is attractive and easy to browse.

Glipho's blogging tools let you compose posts directly on the site, and you can import posts from Blogger, Tumblr, and WordPress. But until Glipho's audience grows to a critical mass, the site's social reach—and therefore its value as a venue for promoting your content—is naturally limited.—LIANE CASSAVOY

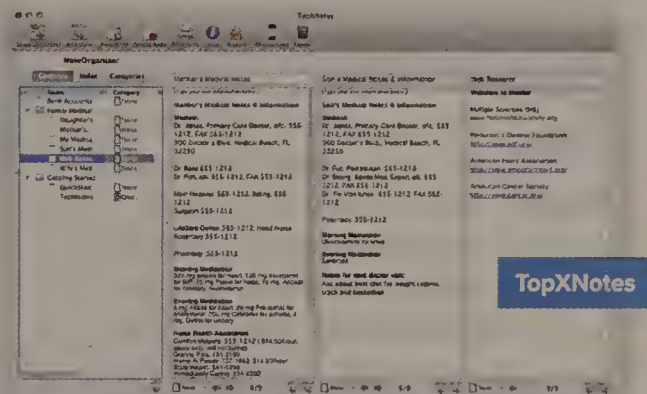


TopXNotes

📱📱📱; \$40; Tropical Software; tropic4.com

Tropical Software's TopXNotes uses strong features that span multiple platforms to create a centralized location for storing and categorizing all your files.

The app's interface adopts a classic OS X window structure that puts plenty of functionality at your fingertips.



The app organizes your notes according to an arbitrary set of categories, and automatically makes everything you write searchable, indexing it as you go along and allowing you to arrange it in a hierarchical structure of “groups” of your choosing.

When you later need to find something, the app's Note Organizer makes every document in your groups readily accessible, provides a global index that lists the title of each note alphabetically, and offers a category list where you can find all of the notes you have filed under a specific heading.

Coupled with a simple but powerful search feature, the Organizer handily solves the problem of files getting lost in complex directory structures.

Meanwhile, the app's intelligently designed MultiView feature enables you to open multiple notes (or multiple copies of the same note) side by side and to edit them simultaneously.—MARCO TABINI

Playlist

Everything You Need to Know About iPods, iTunes, and Mac-Based Entertainment

Into the Blu

How to play and rip Blu-ray discs on your Mac.

BY KIRK McELHEARN

Steve Jobs famously referred to Blu-ray as “a bag of hurt” back in 2008 during a Q&A with the press: “I don’t mean from a consumer point of view—it’s great to watch movies—but the licensing is so complex. We’re waiting until things settle down and Blu-ray takes off in the marketplace before we burden our customers with the cost of the licensing and the cost of the drives.”

Four and a half years later, OS X still doesn’t support Blu-ray playback, nor has any Mac shipped with a drive capable of reading or burning data on a Blu-ray disc. And given that few Macs even include optical drives these days, Apple is unlikely to ever bring Blu-ray to the Mac.

The Blu-ray format has come a long way, and the Blu-ray disc is holding its own in the marketplace. True, people still buy more DVDs than Blu-ray discs, but that could change in the next few years.

A Blu-ray drive can also play DVDs and CDs. So if you're shopping for an external drive to connect to a Mac, consider getting one that supports Blu-ray.

Blu-ray discs offer several advantages. The picture quality is better (with higher bit rates and less compression), as is the audio. If you lack a fast Internet connection (or are subject to bandwidth caps from your ISP), buying a Blu-ray disc may be faster and easier than waiting to download a file that might top out at 8GB. Also, with downloads you don’t get as much bonus content as you do with a disc. Finally, an optical disc is a good, hard-copy backup.



Are you sold on Blu-ray yet? Then it’s time to learn what you need to know to watch—and rip—Blu-ray discs.

Pick Your Drive

The first step to be able to play Blu-rays on a Mac is to purchase a Blu-ray drive. You can buy an external, USB Blu-ray drive for less than \$50, though you should look in the \$80 to \$100 range to find a good one. Many of these models are bus-powered, so you don’t need a power supply; just hook them up to a Mac that has powered USB ports, and you’re up and running. You won’t

All in One MCE Technologies’ \$79 USB Super-BluDrive includes Blu-ray playback software for your Mac.

Bear in mind that a Blu-ray drive can also play DVDs and CDs. So if you’re shopping for an external drive to connect to a Mac that lacks an optical drive, consider getting one that supports Blu-ray.

Choose Your Player

It may seem as if Mac users have a number of Blu-ray playback-software options. But a closer look reveals that the programs are often the same software sold under different names. I tried two such programs: Aurora Software’s Blu-ray Player (\$30 for a one-year license or \$40 for lifetime usage; go.macworld.com/aurorablu) and Macgo’s Mac Blu-ray Player (\$60 for a lifetime license; go.macworld.com/macgoblu).

Unsurprisingly, I found the interfaces to be nearly identical. For simplicity, I’ll focus on Mac Blu-ray Player. (I used version 2.8; version 3.0 should be available by the time you read this.)

Video playback was smooth and free of artifacts, both in a window and in full-screen mode. Audio was similarly fine, although the app crashed once when I turned on subtitles. I tested the app on both a late 2011 Mac mini (with a 2.7GHz Intel Core i7

need any special drivers to mount Blu-ray discs, but without the right playback software, you can’t do much with them (unless they’re data-only Blu-ray discs).

MCE Technologies’ USB Super-BluDrive (\$79; go.macworld.com/superbludrive) comes with Macgo’s Mac Blu-ray Player (more about this in the next section) for playing Blu-ray movies. OWC also offers internal and external Blu-ray drives, but you have to supply your own software.

and 16GB of RAM) and an early 2013 MacBook Pro (2.5GHz Intel Core i5 with 8GB of RAM), using my Plextor PX-B120U 4X Blu-ray drive (discontinued but still available for around \$100 online; go.macworld.com/plexblu).

Let Her Rip

In addition to playing Blu-ray movies, you may want to *rip* them—that is, copy them to your Mac to watch on another device you own. You can use one of two methods.

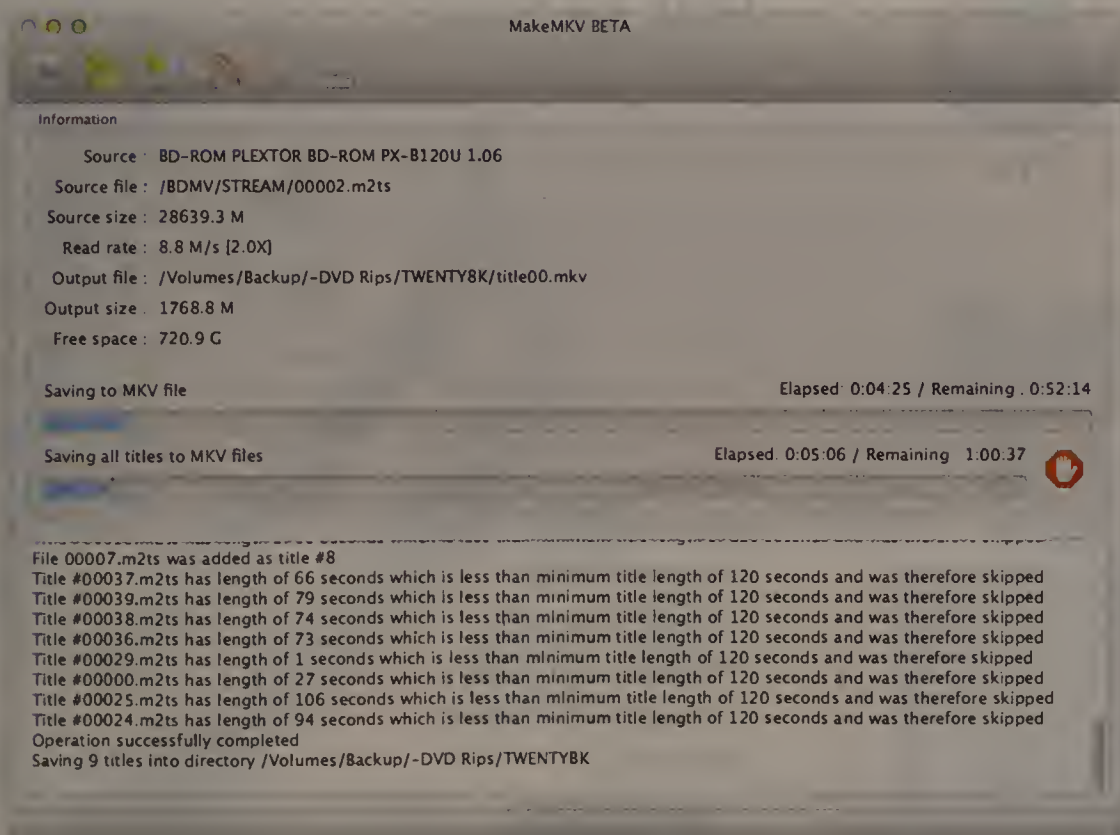
The first method involves decrypting and copying the entire disc to an .iso disc image. This file will be the same size as the original Blu-ray—about 30GB to 40GB. I used Aurora Software's free Blu-ray Copy (go.macworld.com/blu-ray-copy); a two-hour movie took about two hours to copy. To then play the copy, mount the disc image. In the Mac Blu-ray Player app, choose **File → Open File** and then select the BDMV file in the disc image. You can also open BDMV files with the free VLC Media Player (go.macworld.com/vlc-player).

The second method is to make an MKV file. MKV is a file-container format that can hold video, audio, picture, and subtitle tracks in a single file. GuinpinSoft's MakeMKV (free while in beta; www.makemkv.com) is a good program for this

task. (Browse to go.macworld.com/betakey to find the current temporary beta key). MakeMKV can decrypt a Blu-ray disc and save whatever parts you want in an MKV container. (If you don't need the 7.1-channel audio mix, for example, just deselect that item.) The decryption process takes about half the duration of the movie; once it's done, you'll have an MKV file that you can play back with VLC or other software. If you want a smaller file size, you'll need to convert the MKV to a smaller file—in the same format, or in a different one, such as an iTunes-compatible MP4—using a tool such as HandBrake (www.handbrake.com).

That's pretty much all there is to it. In general playing and ripping Blu-ray discs is fairly easy as long as you're willing to invest a little time and money.

[Editor's note: The MPAA and most media companies argue that you can't legally copy or convert commercial DVDs or Blu-rays for any reason. We (and others) think that, if you own a disc, you should be able to override its copy protection to make a backup copy or to convert its content for viewing on other devices. Currently, the law isn't entirely clear one way or the other. So our advice is: If you don't own it, don't do it. If you do own it, think before you rip.]



MKV Method The MakeMKV app rips Blu-ray discs and creates MKV files for playback on your Mac.



Apple TV Expands Its Lineup

BY LEX FRIEDMAN

Apple recently announced the arrival of HBO Go and WatchESPN on the Apple TV—channels that the Roku streaming player has long offered.

HBO Go lets subscribers stream all HBO programming on demand, including older shows such as *The Wire*, along with all the movies currently showing on HBO. Not all HBO subscriptions include HBO Go access; it's up to your cable company to support the service. DirecTV is perhaps the most prominent provider not to support either HBO Go or WatchESPN for the Apple TV; however, it says it will soon support HBO Go, and it currently offers access to the HBO Go app for iOS, which you can use to watch HBO Go on the Apple TV via AirPlay.

WatchESPN simulcasts ESPN, ESPN2, ESPNU, ESPN Goal Line, and ESPN Buzzer Beater—though, again, access is at the whim of your cable provider. ESPN3 exists solely on WatchESPN.

Other recently added providers on the Apple TV include Sky News, Crunchyroll, and Qello, which offer live news, animé/manga, and music programming, respectively. Access to those providers, as with all the others, depends on your geographic location and your cable provider.

To gain the new channels, you'll need to update your Apple TV's software to the latest version.

Four Ways iTunes Radio Can Live Up to Expectations

Apple's upcoming streaming service looks promising, but to avoid being another Ping it needs to satisfy users' wishes.

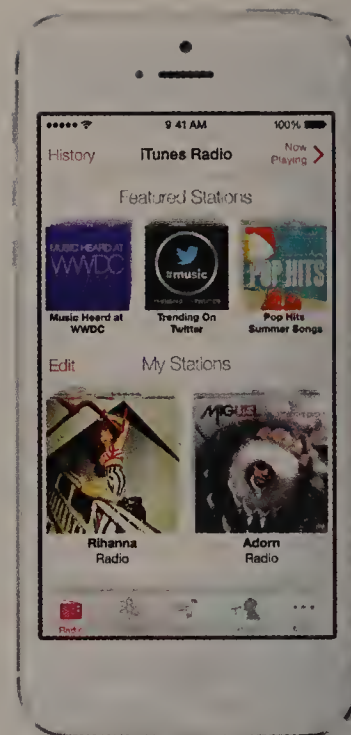
BY CHRISTOPHER BREEN

Apple has announced iTunes Radio, a Pandora-like streaming radio service that will be publicly available in the fall.

While some view this step as Apple finally embracing a model other than traditional music ownership, others wonder if the company is simply dipping a toe in the water. Will Apple go all-in and produce something that's a step forward, or is iTunes Radio a half-hearted me-too measure? As someone who loves music, I'm certainly rooting for the former. But I fear the latter unless Apple meets these expectations.

1. No Sea of Holes, Please
Nothing will elicit comparisons to Ping, Apple's failed music social-media experiment, faster than a porous catalog. If you try to create, say, a Beatles station that plays not a single track by the Fab Four because Apple failed to secure the streaming rights, iTunes Radio will look half-baked. People expect to stream what they can buy.

2. Stations That Start Making Sense
If you think technology enthusiasts can be persnickety about missing details, spend



Station to Station iTunes Radio must program stations in a way that conveys a deep knowledge of music.

an hour with someone who lists music among their top three passions. The music that streams from the stations you create should adhere fairly strictly to the station's theme. For instance, if you create a station based on J. S. Bach, it shouldn't stray out



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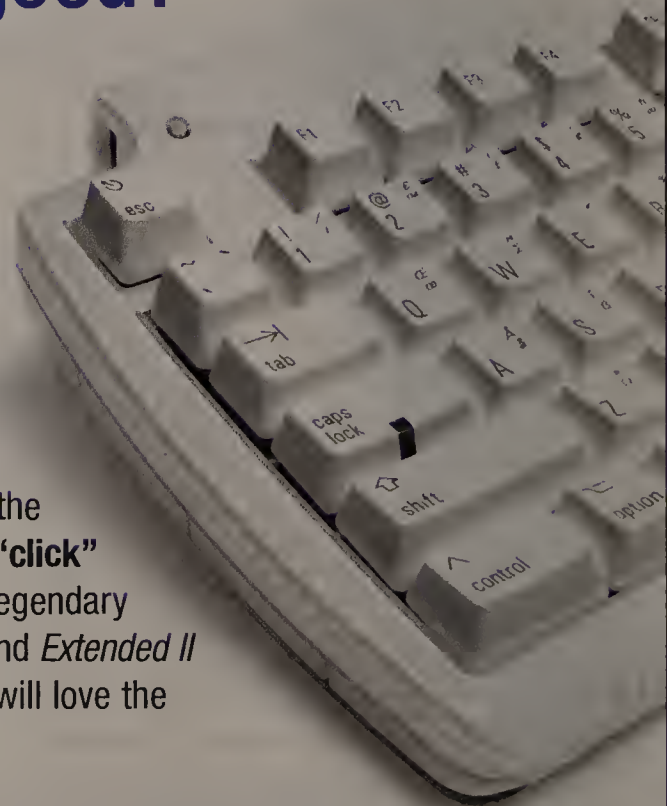
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of the Baroque period—no Beethoven, Mozart, Debussy, Chopin, or Yanni. Similarly, Dave Brubeck is not George Winston, and James Brown isn't Usher.

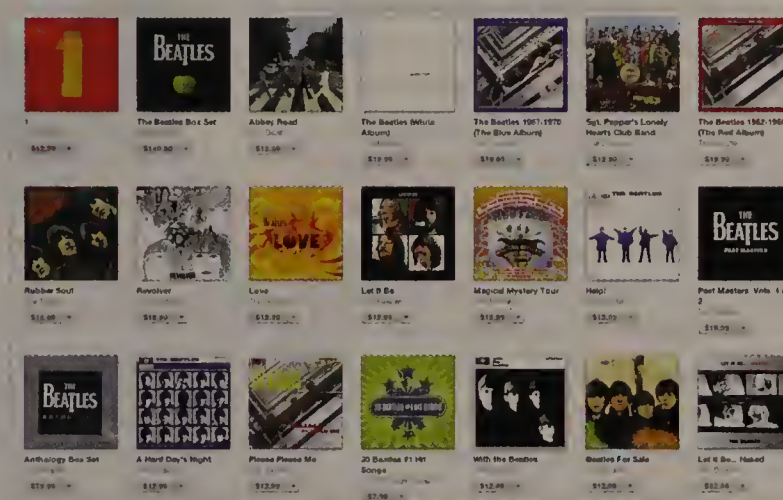
In short, iTunes Radio should sound as if it was programmed by people who understand music—its history and associations. If, instead, stations simply deliver music that's broadly popular in the source genre or was produced in the same decade, listeners who really care about music will deride it as an amateurish effort.

3. Set It Free and Easy

One of the reasons Pandora is so successful is because it's available on Internet-connected Blu-ray players; smart TVs; Roku, Sonos, Android and iOS devices; and computers.

From Apple's (and the record labels') perspective, it makes sense to plant iTunes Radio firmly within iTunes and on iOS devices, because the service acts as a sales tool. When you find something

you like, you can just tap the Buy button above the track. (And, of course, because iTunes Radio will be largely ad-supported, Apple will be keen on controlling the environment in which those ads get delivered.) But I rarely turn to my Mac or iPhone for music, particularly at home. I'd dearly love to tune into iTunes Radio on my Sonos system via a method other than AirPlay using an AirPort Express connected to an auxiliary input.



4. How Deep Is Your Dive?

Streaming radio is as much about discovery as it is familiarity. What distinguishes the best services is their ability to delve deeply into a catalog and make interesting (and appropriate) choices. If you play just the top 100 hits of a particular genre, you've missed the point. The iTunes Store used to offer iTunes Essentials, which let you explore a particular artist's work on three levels: well-known tracks; more-

obscure ones; and those familiar only to die-hard fans.

A similar feature in iTunes Radio that allows you to request deeper tracks would help distinguish it from Pandora.

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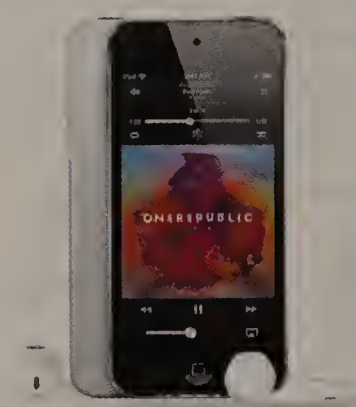


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Reviews

Home Entertainment Hardware, Software, and Accessories



Hardware

Apple iPod Touch

★★★★; \$229; Apple; www.apple.com

In most ways, the \$229 16GB fifth-generation iPod touch is identical to the 32GB and 64GB fifth-generation models released in October 2012. It has the same dimensions, 4-inch Retina display, dual-core A5 processor, front-facing FaceTime HD camera (with its 1.2-megapixel photos and 720p video capabilities), Lightning cable, and remoteless EarPods. Given that it offers no new or improved capabilities over its higher-

capacity siblings, your buying criteria boil down to just a few factors: money, storage space, and what you want from an iPod touch's camera.

This model is \$70 less than the 32GB model. If your budget is tight, this is the one to pick. However, its limited capacity makes it ill-suited for anyone who tends to store rather than stream media. And the lack of a rear-facing camera makes it a poor choice for those who want to share video and photos via Facebook, Instagram, YouTube, and the like—a front-facing camera doesn't let you frame your subjects.

Other, lesser buying considerations include the fact that the 16GB model comes only with a black face and a silver back, and it lacks the capacity for a strap.

The fifth-generation iPod touch is Apple's greatest iPod to date. But the 16GB model makes some definite compromises.—CHRISTOPHER BREEN



Klipsch Image One

★★★★; \$150; Klipsch; www.klipsch.com

The Image One is a well-built and well-appointed headphone that will please listeners who like music served loud with lots of bass.

Klipsch bills the Image One as an on-ear (supra-aural) headphone, even though the earpads may be big enough to fit entirely over smaller ears. Because on-ear models are designed to sit on the ears, they don't seal sound well, so anyone nearby will likely hear your music if you play it loud.

The headphones look classy, with tasteful chrome and leather accents. The earpads are covered in soft leather, as is the top of the metal headband. I initially had to fuss to fit the pads on my smallish ears, but once I did, the headphones felt light and comfortable. The thin, Y-style cable comes with a three-button inline remote and microphone module whose well-spaced controls make it easy to use by feel. A semi-rigid carrying case is included.

The Image One is encumbered with an enormous bass boost that can overwhelm the midrange frequencies. If

you're expecting the clarity of the traditional Klipsch horn sound, the Image One will disappoint. On the upside, the bass is deep and clean. However, buyers looking for accuracy and a balanced sound should look elsewhere.—TONY SILVA



MEElectronics A161P

★★★★; \$129; MEElectronics; www.meelec.com

MEElectronics's \$129 A161P in-ear headphones look modest but pack serious power under the hood.

The canalphone-style headset has eartips that are designed to fit snugly in your ear canals, so they block most outside noise, but they can be tricky to fit. To help with that, the A161P comes with an extensive fit kit of eartips. (A carrying case is also included.)

On the cable for the right-channel earpiece sits an inline, one-button remote and mic module. The cable tends to coil in annoying ways, and the remote feels a bit fragile.

But the A161P's sound is clear, detailed, and natural. The bass is convincing, and midrange and high frequencies are striking.

The A161P offers such impressive performance for its price, with so few drawbacks, that I recommend it for just about anyone.—R. MATTHEW WARD

iPods: Current Lineup

PRODUCT	SPECS	RATING	PRICE ¹	DISPLAY	MORE INFO
iPod Classic 	160GB	★★★★	\$249	2.5-inch color	go.macworld.com/classic2
iPod Touch 5th Generation 	16GB	★★★★	\$229	4-inch color (Retina)	go.macworld.com/touch516
	32GB	★★★★½	\$299	4-inch color (Retina)	go.macworld.com/touch5
	64GB	★★★★½	\$399	4-inch color (Retina)	go.macworld.com/touch5
iPod Nano 	16GB	★★★★	\$149	2.5-inch color	go.macworld.com/nano7
iPod Shuffle 	2GB	★★★★	\$49	None	go.macworld.com/shuffle4

¹All prices are Apple's prices.

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Hot Stuff

What We're Raving About This Month

Jongo wireless multi-room music system

Pure has begun shipping several components of its Jongo multiroom music system in the United States. The \$199 Jongo S3 is a portable, rechargeable wireless speaker that can shoot sound 360 degrees or in just one direction. You can stream music to it from a computer or mobile device over Bluetooth or use Wi-Fi to listen on one or more speakers around the house. The \$129 Jongo A2 adapter lets you connect to an existing audio system and turn it into a music streamer. (A larger Jongo T6 speaker model will ship later in 2013.) To control Wi-Fi playback, you use the Pure Connect app; a free Pure Connect account lets you stream Internet radio and on-demand programming. And later this year, the Pure Music on-demand service will arrive (www.pure.com).—JONATHAN SEFF



Pioneer AirPlay receivers

Pioneer Electronics has introduced two new AirPlay-enabled home theater

receivers: the \$1000 Elite SC-71 and the \$1300 Elite SC-72. Both models are 7.2-channel systems that you can control with your iOS (or Android) device via a free app. You can create multiple listening zones—for example, you can watch TV in one room and listen to music in another. Both receivers let you play Apple Lossless files, and both can upscale your 4K Ultra HD video so that it will look better when played on a 4K Ultra HD TV (www.pioneerelectronics.com).—JOEL MATHIS

Bose QuietComfort 20i

The \$300 QuietComfort 20i Acoustic Noise Cancelling headphones from Bose offer advanced active noise-cancelling technology. The headphones are powered by a built-in lithium ion battery that delivers up to 16 hours of playing time per charge, and they come with sound-blocking ear tips and a four-button inline remote for controlling the music on your iPhone or iPad. The QuietComfort 20i, which will be available in August, also features an "Aware" mode that lets you opt to hear sounds in your surrounding environment—an airport announcement, say—while still keeping the music flowing (www.bose.com).—JOEL MATHIS



Zagg Origin

The \$250 Origin 2-in-1 Bluetooth Speaker System is a wireless speaker setup for your desktop that includes a detachable Bluetooth-enabled portable speaker you can carry with you when you head out the door. You'll hear stronger bass when you use the whole system together—when the portable speaker is docked, it transfers the audio to the main unit, which has larger, more-powerful drivers. But grab the smaller speaker, and you're in for up to 15 hours of tunes on the go (www.zagg.com).—JOEL MATHIS

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Pretty (Inter)face

Retina display support along with new cloud sharing capabilities augment Photoshop CC's under-the-hood enhancements.

box was simplified and includes a resizable image preview that lets you see the results of your settings before applying them. And a Preserve Details interpolation method sharpens areas of fine detail in your image to produce higher-quality enlargements.

Introduced in Photoshop CS6, the Field Blur, Iris Blur, and Tilt-Shift filters make creating blurry backgrounds easier than ever. In Photoshop CC, those filters work with Smart Filters, so you can run them nondestructively. They also take advantage of OpenCL, a technology found in newer graphics cards that lets Photoshop

Photoshop CC Struts Actions, Filters, and Enlargements

Retina-ready Photoshop CC sports many new features, but leaves Bridge in limbo.

BY LESA SNIDER

Review

RATING
★★★★★
PRICE
\$20/month
\$50/month (full Creative Cloud)
COMPANY
Adobe
URL
adobe.com

Adobe has added some nice features to its new, subscription-based, pro-level Photoshop Creative Cloud; it also rolled all of the features of Photoshop Extended into the CC version.

The inclusion of 3D

tools aside, Photoshop CC isn't the most feature-packed release ever, but it has some good stuff, especially in the realm of actions, filters, and enlargements. Unfortunately, Bridge CC, Photoshop's perennial file management sidekick, didn't fare as well.

New Features

Photoshop CC, which you download and install locally on your hard drive, fully supports Retina displays. And look for two new icons at the bottom of the document windows: one for syncing your settings to the Creative Cloud for access on other machines, and one for uploading artwork to the online Behance community.

One of the most useful new features in Photoshop CC is conditional actions; it lets you record an action that chooses among previously recorded actions and runs the one that matches the criteria you set (in order to account for variables such as document size, color modes, adjustment layers, and so on). The Image Size dialog

tap into the card's processing power whenever it wants. As a result, previewing and applying these filters is faster.

Another useful feature is the availability of the Camera Raw plug-in as a Smart Filter inside Photoshop. And speaking of Camera Raw 8, it sports a new Radial filter that lets you apply adjustments in a circular way either from the inside of your image to its edges or vice-versa.

Until Photoshop CC, there wasn't much hope of making a blurry image sharp. Enter the new Shake Reduction filter, which analyzes your image and traces the pattern of blurry areas so as to eradicate them. It does an incredible job on images that are slightly blurry due to camera shake.

Rounding out the improvements in the sharpening realm is the completely redesigned Smart Sharpen filter. It sports a new and improved sharpening method that keeps halos from being introduced around high-contrast edges, a new noise-reduction slider, and a simplified, resizable dialog box.

The Liquify filter is also enhanced and takes advantage of your graphics card's processing power, so it runs up to 16 times faster (especially on big files). In previous versions of Photoshop, the Minimum and Maximum filters were notorious for making round details look square; now, by choosing Roundness from the new Preserve drop-down menu, that won't happen.

Photoshop's Shape tools also have

Photoshop CC's new Shake Reduction Filter analyzes your image and traces the pattern of blurry areas in order to eradicate them.

improvements. One problem with the Rounded Rectangle tool was that you had to guess at the Radius setting to produce the corner roundness you wanted. When you use the tool in Photoshop CC, the Properties panel opens to include four fields you can use to alter the roundness of each corner individually.

Paths has improvements too. You can activate multiple paths in the Paths panel by Shift- or Command-clicking them, which lets

you delete, duplicate, and change their stacking order en masse.

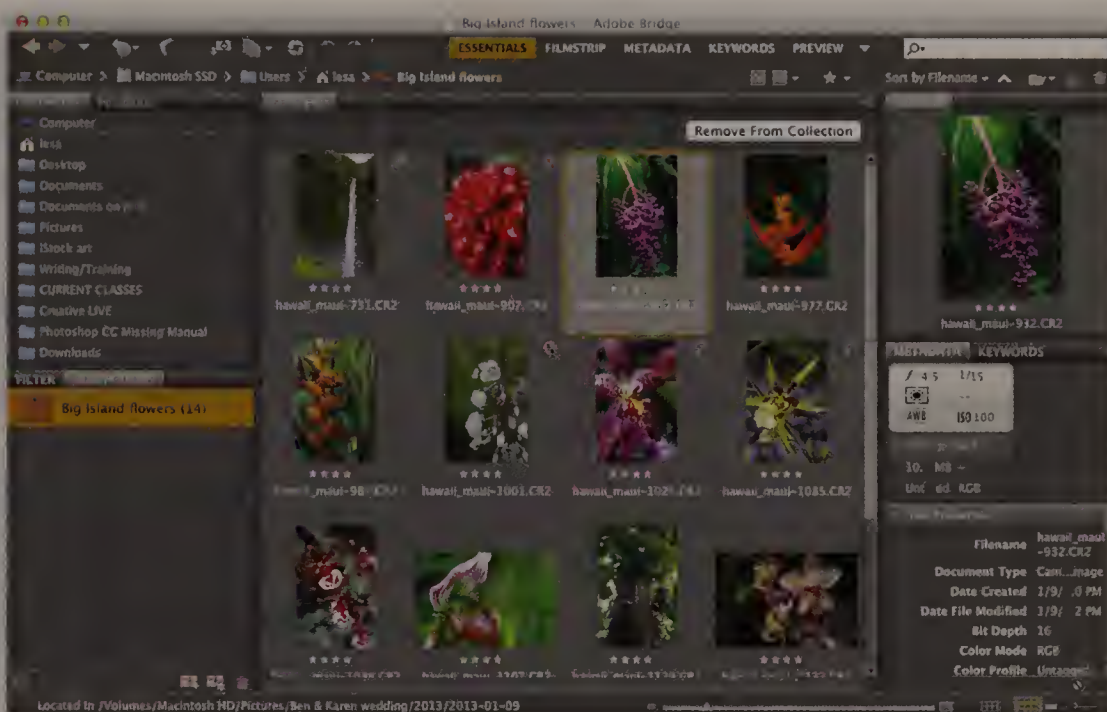
And regarding text: Once you've saved frequently used text formatting as character or paragraph styles, you can use the new Save As Defaults option to make Photoshop automatically add them to documents that don't contain any styles. Also, a new Copy CSS command, found in the shortcut menus of Type and Shape layers, lets you copy color and formatting information into

your computer's memory as CSS code, for pasting into your favorite HTML editor.

Adobe Bridge CC

Bridge CC is now a separate installation from Photoshop CC, making it even less discoverable than before. Adobe also removed some useful

Smart Sharpen The Fade Amount fields let you adjust the sharpening applied to your image depending on the section you're in.



Glaring Omissions Adobe removed some useful functionality from Bridge CC, Photoshop's file management sidekick.

features. The most glaring omission is the Adobe Output Module for creating Web galleries and PDFs. Also missing is the Export panel—useful in converting images from one format to another and quickly posting them on Flickr and Facebook. The New Synchronized Window command, which let you have two instances of Bridge open at the same time, is also not around.

Bottom Line

If you use Photoshop professionally, it's time to subscribe. However, if you use three Adobe programs, you'll save money by subscribing to the full Creative Cloud.

For photographers and hobbyists, the new features in Photoshop and Camera Raw are useful, though the rental waters are murky. If you use only Photoshop and Lightroom and don't want to explore other programs, you'll save money by purchasing a single-app subscription to Photoshop for \$20 per month and a stand-alone copy of Lightroom for \$149. If you use only Photoshop, then try Photoshop Elements instead; it's a powerful, more user-friendly stand-alone image editor that also includes a limited version of Camera Raw for just \$80.

But those using Bridge CS6's Adobe Output Module or Export panel should avoid Bridge CC, as, honestly, the program is a shameful shadow of its former self.



Lightroom 5 Spotlights Innovative Features

Upgrading is a no-brainer for this image-management app.

BY DERRICK STORY



If you like Lightroom 4, you're probably going to appreciate version 5 even more, as this latest version of Adobe Photoshop Lightroom introduces a new set of well-thought-out features while also

maintaining snappy performance.

Some of the new features are innovative. Others are refinements to existing tools. As for the stuff that grabs your attention: Upright offers four modes to straighten images. Smart Previews lets you work on images even when the originals aren't available. The Advanced Healing Brush corrects irregular shapes. The Radial Gradient tool provides a way to direct your viewer's eyes to a particular area of the image. And Video Slideshows enables you to connect clips into a single presentation.

Smart Previews

If you want to leave your original files on a hard drive at home but still have image editing capability in Lightroom, try Smart Previews. When you create Smart Previews, Lightroom builds lossy DNGs (Digital Negative versions) of those images. Even with the masters offline, you can still correct the photos. When you reconnect the hard drive containing the masters, that editing information is retained.

There are a few things you can't do when working with Smart Previews. You can't print a photo book, make a roundtrip

to Photoshop, or apply noise reduction. You'll have to reconnect the hard drive with the originals to do those things. But for the most part, you can work as you normally would, and save a lot of space on your computer along the way.

Advanced Healing Brush

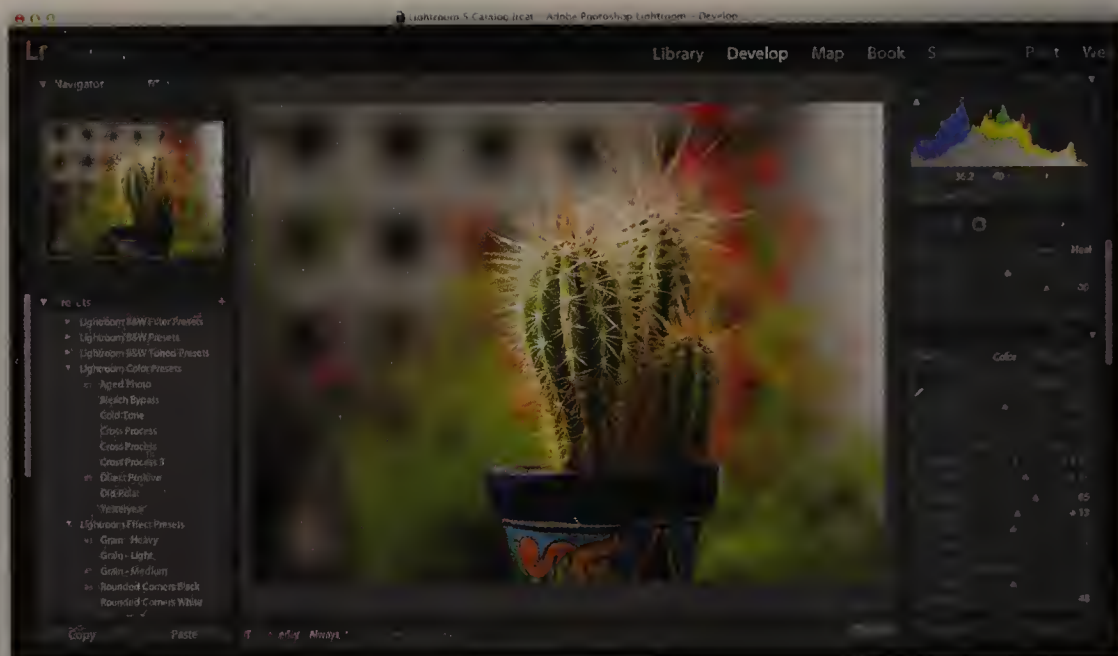
Adobe brings brush strokes to the healing tool, but with a nice twist. The basic improvement is that you are no longer limited to using circles for corrections. You can instead brush over a stray thread and watch it disappear before your eyes.

The twist is that Adobe has added a checkbox labeled Visualize Spots at the bottom of the interface. When you check the box, you're given a graphical representation of the image that makes it easier to spot dust and dead pixels. An intensity slider can adjust the mask to help you best see the flaws for that image.

Radial Gradient Tool

In version 5, Lightroom photographers get a Radial Gradient tool that allows for circular selections. Once you choose an

The Upright tool is immensely useful. With Upright, you can quickly correct a tilted image by simply clicking a button.



Enhanced Images Lightroom 5 features a blend of practical features and great performance while sporting an elegant interface.

area with Radial Gradient, you have 12 sliders for adjusting the area outside of the selection. This tool helps you focus attention to a part of the image where you want to direct the viewer's eye.

Video Slideshows

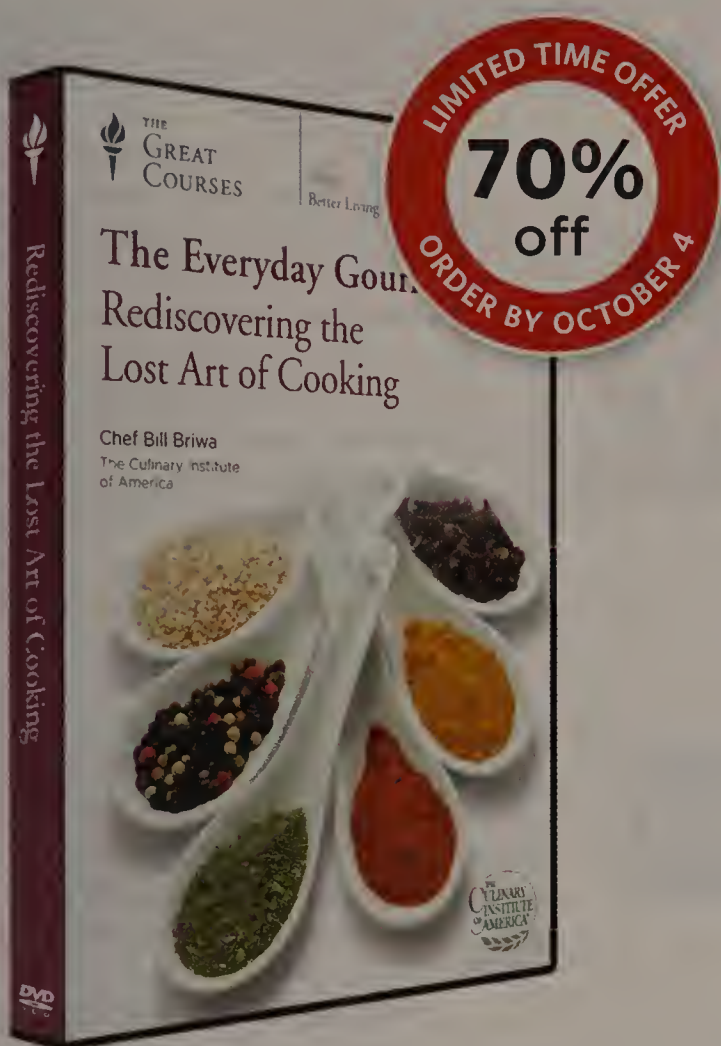
The best approach for organizing your movie is to put all of the assets—both stills and clips—into a Collection. The Collection becomes a storyboarding workspace. Once you're ready to create the video slideshow, select the assets you want to use, then click the Slideshow module. Lightroom will create a video slideshow for you. This feature can also be used to connect video snippets into a short movie.

Upright

The Upright tool is immensely useful. With Upright, you can quickly correct a tilted image by simply clicking a button. It offers four modes: Auto, Level, Vertical, and Full. Level and Vertical are for images that need either horizontal or up and down adjustment. Auto looks at the entire image and is the most balanced option.

Bottom Line

Lightroom 5 is a finely crafted version of Adobe's excellent photo management application. If you're already a Lightroom user, the upgrade is practically a no-brainer.



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8. Braising and Stewing—Combination Cooking
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Font Free-For-All: Get Free and Low-Cost Fonts

Check out our compilation of high-quality font sources.

BY JAY J. NELSON

Throughout much of the 1980s and 1990s, when just 1000 or so fonts were available for desktop computers, designers had a tongue-in-cheek saying among themselves: The one who dies with the most fonts wins! And it made sense at the time because fonts were coveted by every designer as a creative resource of unparalleled importance; consequently, the prices were astronomical.

While supply has risen and prices have dropped over time, one thing still remains true: Fonts are incredibly important to anyone who puts words on paper or pixels.

Tiny Programs

If your budget is low, or if you just want to experiment with a wide variety of type

styles, check out the abundance of free and low-cost sources on the Internet. Warning: Not all fonts are created equal. A font file that you install on your computer is actually a tiny program, with a variety of capabilities—including the ability to crash your applications.

Fonts come in three main formats: PostScript (Type 1) and TrueType are the oldest, and are fairly simple—but still capable of taking down your operating system. OpenType fonts can be far more complex, offering applications the ability to intelligently combine glyphs (characters) into new forms, add swashes to characters, convert combinations of numbers that look like fractions to true fraction characters, and so forth. OpenType is also capable of containing tens of

Fonts Galore

The Web offers an abundance of free and low-cost sources of a wide variety of fonts.

thousands of glyphs, instead of the 256 limit of previous formats.

Aside from whether a font is programmed properly, quality is another issue. In some ways, crafting a font is similar to building a house. Anyone with a set of tools and some raw materials can put up a shelter that could be called a house. But the best houses are the ones designed and built by people who have spent years studying and practicing the myriad techniques, history, styles, and materials. The same may be said about crafting fonts. Many masters around the world have devoted their lives to the true art of typeface design. Others are masters in crafting those designs into font files that you can use. Companies such as Linotype, Monotype, FontShop, and Adobe employ those masters to create the typefaces used by pro designers.

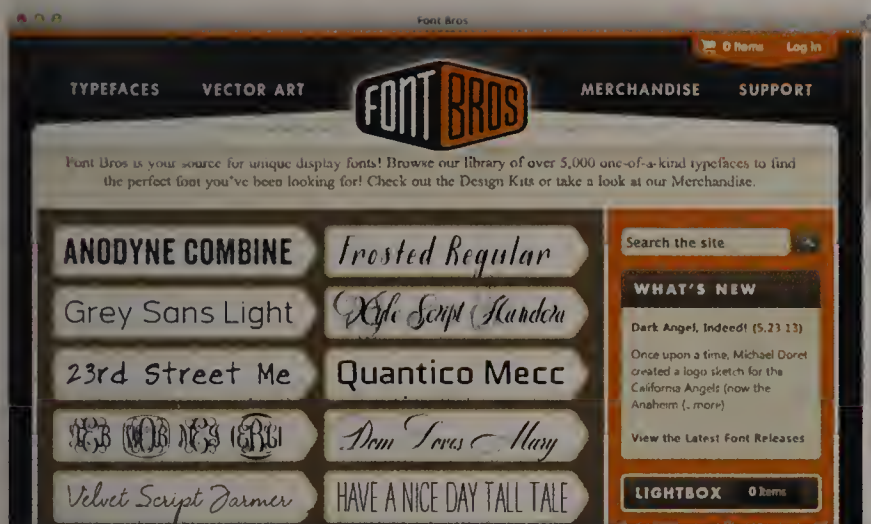
Boutiques

Smaller font boutiques also have operators who have mastered the techniques of font creation and produce their own brand and style of font designs. Many boutiques offer their fonts through distributors such as fonts.com, myfonts.com, and veer.com, while others choose smaller distributors such as fontbros.com and hypefontype.com.

These smaller distributors work with new and upcoming font designers to distribute and promote their work. While some of the designs are unrefined, others are very good and also available for just a few dollars.

This brings up the question: Why would anyone go through the hard work of designing and producing a font, and then not charge for it? The most common answer is that the designer just wanted to be creative, and didn't want to be bothered with the commercial aspect of it.

A more recent trend is for designers to give away a font that showcases their style, hoping that people who discover it will want more of that style and pay for their other designs. Sometimes you can



FontBros.com

This is a smaller distributor that works with new and upcoming designers.

symbol, and whether its license is for personal use only. The abstractfonts.com site also indicates whether a font is licensed for personal or commercial use.

And then there's Behance, recently acquired by Adobe, which lets members upload fonts they've designed. Google has also gotten into the free font game, and has already amassed more than 600 free fonts that you can download individually or all at once (google.com/fonts).

Other websites are more like a simple database of free fonts, with font previews and links to download the fonts. These include 1001fonts.com, acidfonts.com, dingbatdepot.com, fontface.com, and many others.

The business of fonts is constantly evolving. More free, high-quality fonts are available today than ever before, and new websites have sprung up to offer you the best ones, with the least risk.

The best fonts, however, are designed by human beings, who spend a lot of hours crafting a design tool for you to use at no charge. And one of the best ways to give thanks for a font you particularly enjoy is to explore other font designs by the same designer, or even buy one.

pick up a style or two of a typeface (the regular and italic styles, say), but the remaining styles (bold, light, extrabold, condensed) are available for purchase. Great examples are Jos Buivenga's [exljbris Font Foundry](http://exljbris.com) (exljbris.com) and Chank Diesel's chank.com. Other websites offer some free fonts in addition to paid fonts. FontFabric (fontfabric.com) has

what risk to accept in using it.)

Probably the best source of free commercial-use fonts right now is Font Squirrel (fontquirrel.com). The site offers both free Web fonts and its free font-face kit Generator.

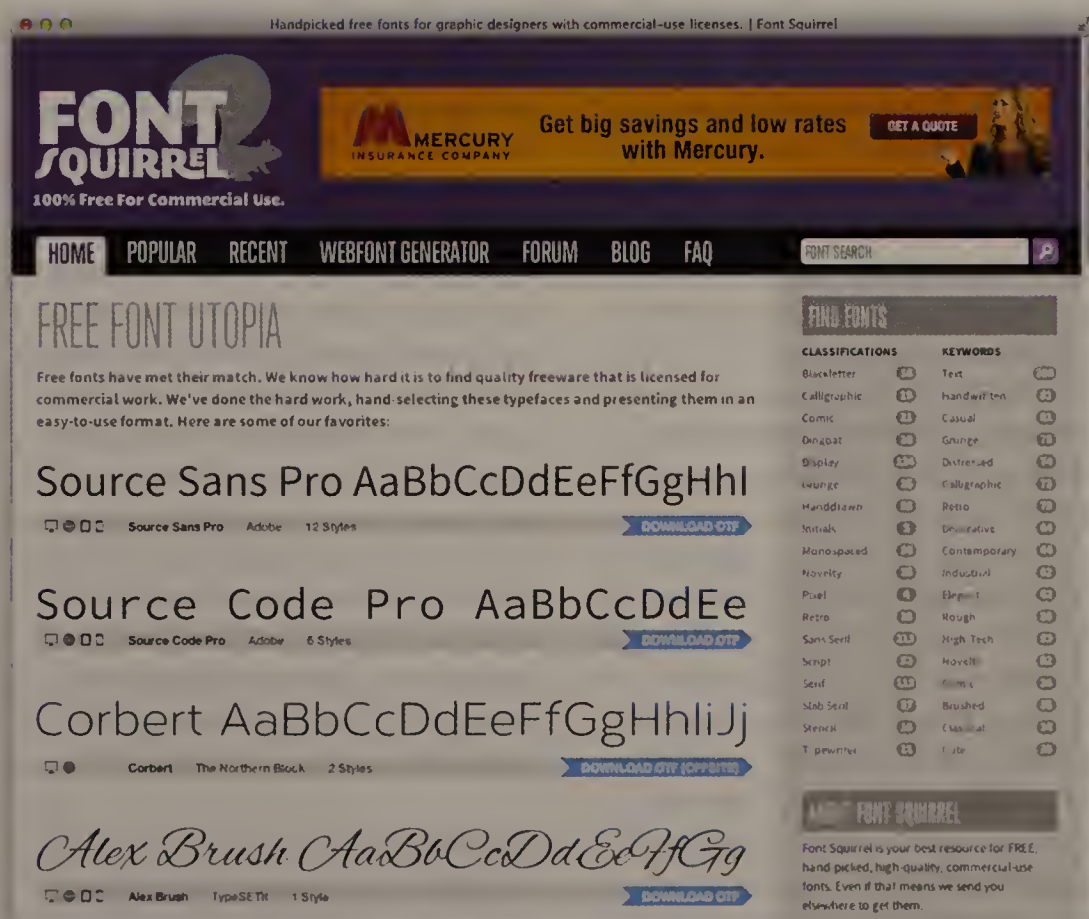
The dafont.com site helpfully indicates whether each font has a full set of accented characters and the Euro

More free, high-quality fonts are available today than ever before, and new websites have sprung up to offer you the best ones, with the least risk.

about 50 free fonts, each nicely illustrated so you can see the kinds of designs you could make. TypeDepot (typedepot.com) has several free fonts, also attractively illustrated, and FontShop (fontshop.com) keeps a few free fonts available, as well.

Usage Restrictions

Before we get to any more sources of free fonts, consider this: Fonts have usage restrictions, and while some are licensed for use in any project, many are free only for personal projects such as holiday letters and garage-sale flyers. So, if you want a font for a commercial project, look for one that's licensed for commercial use. Some websites indicate the allowable uses for their free fonts, while others leave that chore for you to discover by reading an included text file with each font. (And if the font doesn't include a text file that states its allowable uses, you are then on your own to decide



Font Squirrel This site is a great source of free commercial-use fonts.

How to Achieve Total Sharpness in Your Photos

BY DAVE JOHNSON

Conventional wisdom has it that you should keep the background in your photos out of focus to draw attention to the subject in the foreground. Generally that's good advice, but sometimes you might want everything to be in sharp focus. If you have a camera that lets you adjust the focus manually (think DSLRs and advanced compacts), you can accomplish this effect using a technique called hyperfocal photography. And despite the technical name, hyperfocal photography isn't very complicated. The term simply refers to taking a picture in a way that delivers the maximum possible depth of field.

Hyperfocal Distance

Sounds easy—after all, you already know that large f-numbers yield deeper depth of field. So picking the biggest f-number available (say, f/22) should automatically give you a hyperfocal photo that's uniformly in focus, right? Not so fast. There's a little more to hyperfocal photography. It also requires you to shoot at something called the hyperfocal distance.

Imagine that you want to take a photo of a person standing 10 feet in front of you, and that you want the entire shot—which has a distant mountain range—to be in focus. If you set the camera to aperture priority mode and dial in f/22, and then focus on the subject in the foreground, you might end up with a total depth of field that's about 15 feet, extending a little in front of the person and a little behind. The mountain range will be a blur. So simply setting your camera to the deepest possible depth of field won't work.

Now use the same settings, but focus on the faraway mountain range. The depth of

field might start about 18 feet in front of the camera and stretch all the way to infinity. The result: The mountains are in sharp focus, along with anything and everything in the frame beyond 18 feet. But at just 10 feet away, the person is a blur.

What's going wrong? In both cases we're "wasting" perfectly good depth of field. When we focused on the subject, the depth of field in front of the person went unused. And when we focused on the mountains, any depth of field behind them was wasted, because it's already at infinity.

The solution: We need to focus on an intermediate location so that the furthest extent of the depth of field just reaches infinity, and the depth of field shifts forward to put as much of the scene in sharp focus as possible. That location is the hyperfocal distance. In our imaginary portrait, the hyperfocal distance is about 18 feet. If you set the camera's focus on 18 feet, the near limit of the depth of field is 9 feet. And the far limit is (and always will be for a hyperfocal shot) infinity. Take that shot, and the subject 10 feet away, plus everything to infinity, will look sharp.

Helpful Tools

Where did all those numbers come from? The easiest way to tell is with a tool that calculates the hyperfocal distance for you.

Maximum Depth of Field Focus on the right distance, and you can get sharp focus at every point in the photo.

My favorite is the online depth-of-field calculator at dofmaster.com. Just enter the kind of camera that you own and choose the focal length of your lens—you'll see the hyperfocal distance listed. Enter that number in the 'Subject distance' field, and calculate—you'll be rewarded with the near and far limits of the depth of field.

If you have an iPhone, the DOFMaster app is even easier to use. After specifying your camera settings, tap the *HD* button to learn what distance to focus on and what the near and far depth-of-field limits are.

Hyperfocal photography is really practical only on cameras that let you both control the aperture and manually set focusing distance—such as digital SLRs and advanced compact cameras. Smartphones and very simple point-and-shoot cameras, on the other hand, lack a way to set the focusing distance to a specific value, so they are not good candidates. That said, however, the tiny size of smartphone image sensors means that their photos tend to have a fairly deep depth of field anyway, so with a little experimentation, you can often get hyperfocal-like photos without having to make any special effort.





Four Things Apple Could Do to Improve iPhoto Right Now

BY JEFF CARLSON

The last major version of iPhoto—iPhoto '11—came out in October 2010. But looking at iPhoto for iOS, I suspect Apple is working on a major overhaul of the Mac application, which would explain the development lag. However, until the next major version appears, here are four ways Apple could improve iPhoto '11 in the short term.

1. Turn Off Faces

Nothing spins up the fans on my MacBook Pro like iPhoto, and that's because it appears to be searching for people to identify for the Faces feature in the background. I think Faces is a fine idea, and iPhoto does a good job of locating people in pictures after you've spent time identifying them in several shots. But I don't use it enough to justify hogging a majority of my Mac's processing power.

Apple's Aperture tool offers a checkbox in its Preferences window to disable Faces; iPhoto needs one, too.

2. Handle Offline Images

Most people who have been using iPhoto for several years probably have dozens or hundreds of gigabytes of photos stored on their Macs. Who cares?

Storage is cheap! At least, it's cheap if you use traditional hard disks. But if I want to buy a MacBook Air or MacBook Pro with a 256GB solid-state drive, I don't want half (or more) of my storage dedicated to old photos. At the same time, I don't want to split my photo library into smaller libraries.

Instead, I should be able to store photos on an external drive. Even if the drive wasn't connected, I could still view previews and information about the photos—I just couldn't edit them. This is how Aperture, Lightroom, and Photoshop Elements work. But the way iPhoto '11 currently handles this is complicated and limited. The app does offer a preference setting for just linking to images instead of copying photos into the iPhoto Library. That preference setting applies only to photos imported from disk, however; images imported via camera or memory card are automatically saved in the iPhoto Library.

If I disconnect the external drive, I can still view thumbnails of the photos stored on it. But when I try to open a picture, — just to view it larger, for example—iPhoto displays a dialog box in an attempt to locate the file. And clicking Cancel presents a giant black image with a warning symbol in the middle.

Power Overload
iPhoto's Faces feature is fun—but not for your Mac's CPU.

3. Copy Photo Stream Images to the Finder

If you've enabled iCloud's Photo Stream

feature, you will need to use iPhoto or Aperture as the destination for the photos that are on your Mac. That's fine if you open either application regularly, but what about someone who uses Lightroom as their primary photo library? I shouldn't have to launch iPhoto or Aperture just to collect my Photo Stream images.

Instead, I should be able to specify a folder in the Finder and have my Photo Stream photos show up there, the same way that Dropbox updates files among computers. Putting the photos in Finder folders automatically gives me options for choosing how the photos are organized. If I do decide to use iPhoto primarily, it can automatically import the pictures into my library, but not copy them, as mentioned above.

4. Enable Metadata Export

Currently, you can't easily export photos and also retain metadata such as keywords, titles, descriptions, and ratings. It is possible to export a JPEG that retains keywords and titles, but doing so degrades the image quality (because JPEG is a lossy compression algorithm as well as a file format). Ratings are lost in the wind.

Why is this important? If you want to migrate to another tool besides Aperture, all the time you spent assigning the metadata is lost. But solutions abound. The data could be saved in an XMP (Extensible Metadata Platform) "sidecar" file that travels with the original file, which gets around the need to write the data into the image files themselves. Or Apple could allow developers access to the data, a capability apparently lost last year when iPhoto and Aperture began using the same database architecture.

I understand that Apple wants to keep iPhoto simple, but with the exception of metadata export, I'm not asking for pro-level features. And these revisions would go a long way toward improving iPhoto as we know it.

Help Desk

Answering Your Questions and Sharing Your Tips About Getting the Most From Your Mac

Mac OS X Hints

The insider tips you won't get from Apple.

BY KIRK McELHEARN

Check Your Laptop Battery's Health

Here's a quick, handy way to check the vital signs of your Mac laptop's battery. Usually, when you click the battery-status icon in the menu bar, you get a menu showing you (approximately) how much time you have left before your battery runs out of juice. But if you press <Option> before clicking, you'll see an additional entry: Condition. You're hoping it reads 'Condition: Normal'. (The Condition line won't appear if you hold down <Option> after you've already clicked the menu.)

The other status options—Replace Soon, Replace Now, and Service Battery—reflect progressively more serious battery woes. In each of the two Replace options, your battery still functions normally, though it holds less charge than it used to (significantly less, in the case of Replace Now). The Service Battery option may not mean that you face imminent battery failure, but it does indicate under-the-hood problems that, if you continue to use your laptop's battery, could cause it long-term harm.

Condition: Normal

4:39 Remaining

Power Source: Battery

✓ Show Percentage
Open Energy Saver Preferences...

Battery Status

Clicking the battery-status icon in your menu bar reveals the state of your laptop's battery, so you can head off trouble before it arises.

to use Dropbox's Camera Upload feature (which automatically copies photos from an iPhone, an iPad, or a connected camera or memory card to a special folder in your Dropbox account), but he didn't want the photo files cluttering his SSD.

So he moved the Camera Uploads folder to another disk, while keeping his main Dropbox folder on the SSD. Though this sounds simple, it's actually tricky: You can use Dropbox's tools to move the main Dropbox folder to another disk, but the tools don't let you move just a specific subfolder within the main Dropbox folder.

just moved your Camera Uploads folder. (A simple way to add that last bit is to drag the Camera Uploads folder from the Finder to the Terminal command line.)

Press <Return>, and OS X will create what looks like an aliased Camera Uploads folder within the Dropbox folder, but in fact is a symlink. That symlink lets Dropbox use the Camera Uploads folder as if it were still in your main Dropbox folder, even though the files now reside on the external disk.

Fix FaceTime Login Problems

Has FaceTime ever refused to let you log in to it, even though you used the correct Apple ID and password? One *OS X Hints* reader had that problem and discovered an unusual explanation for it.

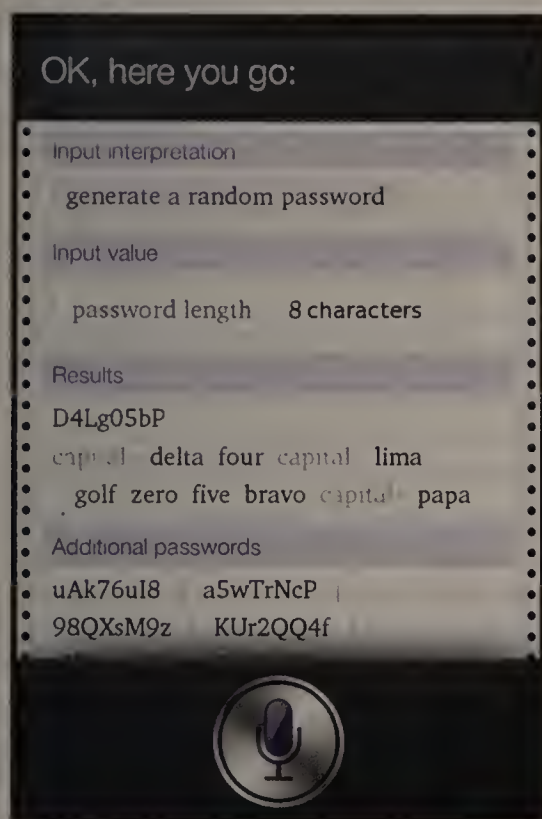
Turns out, FaceTime logins depend not only on the usual Apple credentials, but also on the serial number of your Mac's logic board. If you ever swapped in a new board, the person who did the work needed to give it your Mac's serial number. If that didn't happen, FaceTime won't work. To fix the problem, take your Mac back to the technician and get the correct serial number written on the board.

If your Mac has a solid-state drive and limited storage space, and you use Dropbox, you may worry about how much space your Dropbox folder takes up.

Move Dropbox Subfolders

If your Mac has a solid-state drive and limited storage space, and you use Dropbox, you may worry about how much space your Dropbox folder takes up on your disk. *Macworld* Senior Contributor Jeff Carlson had this problem: He wanted

To follow Jeff's solution (which he posted at www.tidbits.com), in the Finder move the Camera Uploads folder from the Dropbox folder to another drive. Open Terminal and type **cd ~/Dropbox** to change to your Dropbox directory. Now type **ln -s**, then a space, and then the location where you



Passwords via Siri You can create extremely secure passwords easily by having Siri enlist the help of the Wolfram Alpha data engine.

Disable Remote Images in iOS Mail

If you're concerned about the amount of cellular data you're using on your iPhone or iPad, here's a way to use less (brought to my attention by David Chartier, of [Finer Things in Tech](http://finerthings.in) [finerthings.in]): A simple setting in iOS turns off the automatic loading of images in Mail. As with Mail in OS X, you can always load images later, but they won't load by default; this will save you download time and bandwidth.

To alter the relevant setting, go to *Settings* → *Mail, Contacts & Calendars* and toggle *Load Remote Images* to *Off*. If you receive an email with images and you want to see them, tap *Load All Images* in the message. This setting would be more effective if it limited image downloads only when you were using cellular data.

Unfortunately, it's an all-or-nothing choice, so even when you connect via Wi-Fi, you must download images manually.

Create Secure Passwords With Siri

Siri's ability to access the Wolfram Alpha database (wolframalpha.com) means that you can access a vast amount of interesting data just by talking to your iOS device. One particularly handy thing this lets you do is create highly secure passwords.

To try it, launch Siri and say, "Wolfram password" or "Wolfram Alpha password." This will produce a list of eight-character random passwords. If you want a longer one, you can be more specific—"Wolfram 14-character password," for example.

Regrettably, you can't copy this password from Siri to, say, a Web form or a password manager such as 1Password. And once you've switched away from the Siri results, you can't return to them. So you must write the passwords down before you can use them. (Make sure you delete those notes or store them in some sort of encrypted file when you're done.)

View Zip Archives From Terminal

Have you ever wanted to see what's inside a Zip archive without unzipping it? There are a couple of ways to do this.

One method is to use BetterZip Quick Look Generator (macitbetter.com), a Quick Look plug-in. Install the program in */Library/QuickLook* or in *username/Library/QuickLook* (you may need to create such a folder), and then relaunch the Finder (hold down the <Option> key and then <Control>-click or right-click the Finder icon in the Dock and select *Relaunch*). After doing this, select a zip archive in the Finder and press the spacebar; BetterZip Quick Look Generator will show a graphical display of the archive's contents.

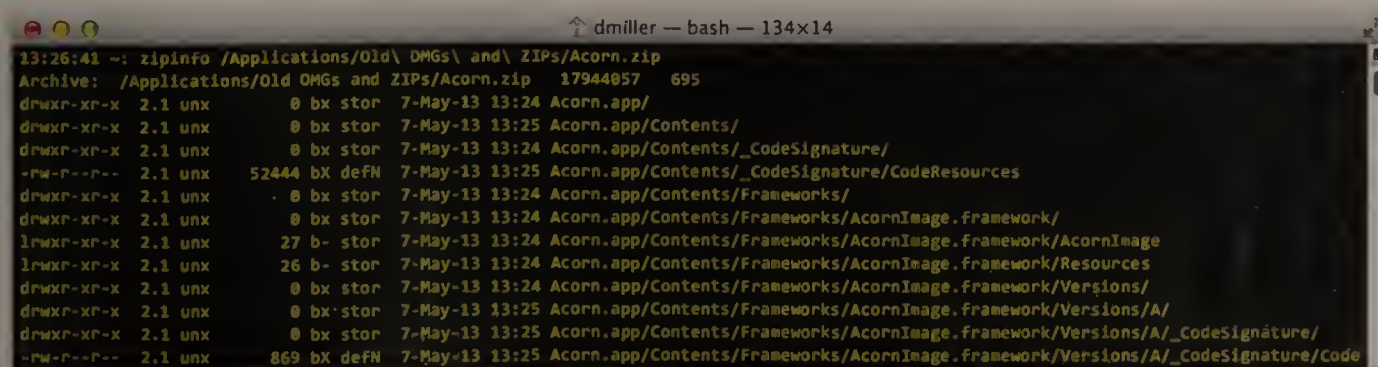
The second way to peek inside a zip archive is from the command line. Open Terminal and type **zipinfo filename** (where **filename** is the name of the archive file), and you'll get a list of files in that archive. This command includes some helpful options. By default, the command shows you a list containing all kinds of file details (permissions, owner and group, size, last-modified date, and more); at the end of the file listing, it will show you how many files are in the archive, how much disk space those files took up before and after compression, and the percentage by which they were compressed.

For a more succinct list—containing just the names of the files in the archive—you can type **zipinfo -l** (that's a number 1, not a letter l). Typing **zipinfo -m** will show you the regular zipinfo output, but it will also add the percentage by which each file was compressed. Type **man zipinfo** for more details.

Archive iOS Device Backups

When you sync an iOS device to iTunes, it is backed up. By default, this backup is saved to your Mac, but you can also set it to go to iCloud. When you save backups on your Mac, a lot of data and settings are also saved, so you can restore the device, or set up a new device, by using a backup.

Dave Hamilton, writing at *The Mac Observer* (macobserver.com), recently pointed out that you can also archive backups. To do this, go to iTunes' Preferences and click *Devices*. Control-click (or right-click) one of your devices, and then choose *Archive*. The name of the backup in the Device Backups list will change to contain the name of the device and the date it was last backed up. The next time you sync your device, iTunes will create a new backup, and retain the old one.



Zip Archives Typing a command in Terminal is a quick way to view the archive's contents (shown here) without opening the archive.

Mac 911

Solutions to your most vexing Mac problems.

BY CHRISTOPHER BREEN



How to Encrypt Your Email

Q: After reading stories about the U.S. government's program to collect phone and Internet data, I'm a little concerned about my email privacy. What can I do to encrypt my email?

Jack Burns

A: You must first get your hands on a personal certificate. This is a small file, added to the Mac's keychain, that verifies your identity in mail you send. Symantec sells such things for \$23 per year (go. macworld.com/digitalid; you can try one for free for 25 days). You'll need a separate certificate for each email address you wish to send encrypted messages from.

You'll be asked to register your email address with the certificate seller. A message containing a link to the certificate will be sent to that address. You'll also receive a password. Click the link; this will launch your default Web browser and take you to the certificate download

page. Enter the password you received and click *Continue*, and the certificate will download to your Mac.

Double-click the certificate, and Keychain Access should launch, installing it. You'll know that the certificate has installed if you see it when you click the *Certificates* category in Keychain Access.

Now that you've installed the certificate, launch Apple's Mail and create a new message. In the New Message window's *From* pop-up menu, choose the account for which you've obtained the certificate. To the right of that pop-up menu, you will see a couple of buttons that you haven't seen previously. The first is the *Encrypt* button, which is almost certainly grayed out (how it's activated is explained in the following paragraphs). The second is the *Digital Signing* button. By default, this button will bear a checkmark, indicating that when you send a message from this account, it will be certified as truly from you. (But remember, if you click that button—removing the

checkmark—you will turn off digital signing.)

In order for the *Encrypt* button to become active, you must have a certificate from the person to whom you are sending the message—their *public key*, in the parlance of the encryption game. And that means that they, too, must have installed a certificate. If that condition has been met, this is how the exchange works:

You first send a digitally signed (not encrypted) message to your recipient. When you do this, your public key is also sent to them and added to their list of certificates. They then reply to that message using their certified address. The reply contains their public key, which will be added to your keychain. Once the two of you swap keys, the *Encrypt* button will become active when you enter the person's address in a new message's *To* field.

Complicated? Yes, a little. But it makes sense that each party has a key to unlock the other's messages. This security scheme can be useful when you're sending company email that you want protected from a competitor or personal email that you'd prefer not be seen by friends or family.

Extract Audio From Movie Files

Q: I have some MPEG-4 music-video files, and I want to lift the soundtrack from them and burn that music to CD. What's the secret?

via the Internet

A: This situation actually has many secrets, or solutions. Allow me to run down a few options that are built into the current Mac OS and Apple applications you likely already have on your computer.

Use QuickTime Player X: Launch QuickTime Player X (found in the Applications folder) and use it to open your movie. Choose *File* → *Export*, and in the sheet that appears choose *Audio Only*

from the *Format* pop-up menu at the bottom of the sheet. Name the file and click *Export*. The file will be exported as a 256-kilobits-per-second AAC audio file.

Use Services: In the Finder, select your movie files. Choose *Finder* → *Services* → *Encode Selected Video Files*. In the window that appears, choose *Audio Only* from the *Setting* pop-up menu and click *Continue*. Audio files encoded at 256 kbps will be created from your movies.

Use GarageBand: Launch GarageBand, click *New Project*, select the *Movie* project, and click *Choose*. Name your project in the window that appears. Drag your movie into the project's Movie Track. The soundtrack will appear in the Movie Sound track below. Choose *Track* → *Hide Movie Track* and then *Share* → *Export Song to iTunes*. If you'd like the highest-quality file available, uncheck the *Compress* option and click *Share*. The audio from the movie will be exported to iTunes, using the title you assigned when you created the project. If you unchecked the *Compress* option, the resulting file will be in the AIFF format.

Use iMovie: Launch iMovie, choose *File* → *New Project* to create exactly that, and select *File* → *Import* → *Movies*. Add your movie to a project. Choose *Share* → *Export Using QuickTime*. In the window that appears (Save Exported File As), choose *Sound to AIFF* from the *Export* pop-up menu, and click *Save* to create an AIFF audio file.

All of these techniques will extract the audio you're after. If you take the GarageBand or iMovie route, you'll also be able to edit out the audio you don't want so that you're left with just the good stuff.

Once you've done all this, drag your audio files into iTunes. Choose *File* → *New Playlist*, name the playlist, and drag those files into it. Reorder them as you like. Finally, choose *File* → *Burn Playlist to Disc*. Insert a recordable CD into your Mac's media drive (please tell me you have one) and click *Burn*. Done.

Tag Items in Mountain Lion

Q: I saw Apple's announcement at WWDC of the upcoming OS X update,

Bugs & Fixes BY TED LANDAU



Download iTunes Movie Trailers

Until recently, if you visited Apple's iTunes Movie Trailers website, you had the option to either stream trailers or download them. Further, once you selected a trailer, your choice of viewing resolutions topped out at 1080p. Not any more.

As of late May, Apple removed the option to download trailers. Downloading may still be available for trailers that predate the change, but not for any newly added ones. At the same time, Apple entirely eliminated 1080p trailers, even for streaming. The highest resolution is now 720p.

While some users may be content with streaming options only, I am not. I have long maintained an archive of favorite trailers. This has dual benefits. It lets me quickly access and view 1080p versions of trailers without requiring an Internet connection or sucking up any bandwidth. And it means I can view the trailers even after Apple removes them from its website.

But don't despair. With a bit of effort and luck, you can still download trailers from Apple's servers. I fear this back door may not stay open for long, especially once it becomes well known. But for now, it works.

From the iTunes Movie Trailers site, select the webpage for the trailer you want to download. As an example, I chose the upcoming movie *Prisoners*. It has the following URL: <http://trailers.apple.com/trailers/wb/prisoners/>.

Copy the URL from your browser's address bar. Paste it into a text editor and change *'/trailers/'* to */movies/*.

This next step is where you'll need that bit of luck. You need to append the

name of the trailer's .mov file to the end of the URL. While there's no way to know for sure what the filename is, you can make a good guess. Typically, it will be the name of the movie as it appears in the URL, but with an extension such as *-tlr_720p.mov* added. You may also need to add a number after *tlr*, especially if more than one trailer is posted. For *Prisoners*, I needed to add a 1, creating this final URL: http://trailers.apple.com/movies/wb/prisoners/prisoners-tlr1_720p.mov.

If there are two trailers for the same movie, there should be both a *tlr1* and a *tlr2* file. And so on for additional trailers.

Copy the modified URL and launch QuickTime Player. Select *File* → *Open Location*. In the text box that appears, paste the modified URL. Click the *Open* button. If your luck holds, the trailer will open. Once the movie is open in QuickTime Player, save it by selecting *File* → *Export*, choosing a location, and clicking *Export*.

One more thing: The filename I initially suggested included *'720p'*. As you would expect, the resulting URL gives you the 720p version of the trailer. What if you instead entered *"1080p"* in the name? Surprisingly, this often works—giving you a 1080p version of the trailer even though you cannot otherwise download or stream this resolution from Apple's site. It succeeded when I tried it for *Prisoners*, for example, using this final URL: http://trailers.apple.com/movies/wb/prisoners/prisoners-tlr1_1080p.mov. It's worth a try.

Share your Mac-related problems by writing to bugs@macworld.com.

Mavericks, and loved the idea of adding tags to my files. Can I do something similar with Mountain Lion?

Andrew Ainsbury

A: Sort of. Mavericks, which is due to be released this fall, will let you add keywords to a file, thereby enabling you to

catalog your data. There are a couple of ways to do something similar in your current version of OS X.

First, you can label items and then create a smart folder that looks for specific labels. To do that, select a file (or a group of files) in the Finder, choose *Finder* → *Label*, and assign a color to the

items. Now choose *File* → *New Smart Folder*, click the plus button (+) in the resulting window, and choose *Other* from the first pop-up menu. In the sheet that appears, type **label** into the search field. Select the one entry that appears—*File Label*—and click *OK*.

In the label-color area next to that pop-up menu, pick the color you want. Click the *Save* button at the top right, name your search, be sure the *Add To Sidebar* option is enabled, and click *Save*. Your smart folder will appear in every Finder window's sidebar. Also, as with tags in Mavericks, the folder's contents will be updated dynamically. Every time you assign this label to a new item, it will appear in this folder.

Unfortunately, this method limits you to just seven labels. A better option is to use Spotlight comments instead. The procedure is similar. Select an item to which you wish to append a Spotlight comment, press **⌘-I** to produce the item's Info window, enter an appropriate comment in the Spotlight Comments field, and then close the window.

Create a smart folder, click the plus button to add a condition, choose *Other* from the *Kind* pop-up menu, and enter **comment** in the search field. Select *Spotlight comment* and click *OK*. Configure the condition to read *Spotlight comment matches yoursearchterm*, where the expression *yoursearchterm* is the comment that you added. Save your new smart folder to the sidebar.

This process can be slow going, so I suggest that you automate it. Launch Automator (found in */Applications*) and choose *Service* from the template chooser that appears. In the Library pane, select *Files & Folders*. From the Actions pane,

Mac 101

When 'Find My Mac' Doesn't

Q: When I use Find My Mac, the location it provides is wrong—it's in another house, in fact. Is this normal?
via the Internet



A: No—unless, that is, your neighbor has broken in and stolen your Mac or you've tapped into that neighbor's wireless network (tsk-tsk). Unfortunately, making this feature more accurate is out of your control. Apple has found a way of pinning a location to the world's broadband routers, and sometimes the location for a particular router (yours, in this case) isn't entirely accurate. There's a chance that the accuracy will improve over time as Apple gathers more information about your location.

drag the *Set Spotlight Comments for Finder Items* action to the workflow area. Configure the top row of pop-up menus to read *Service receives selected files or folders in Finder*. In the action below, enter the comment you wish to append to an item's Spotlight Comments field—'HotsyTotsy', for instance (see "One-Stop Tagging," below). Save and name your workflow.

To add this comment to any selected files or folders, choose *Finder* → *Services* and then choose the workflow you just created. As long as you've created the smart folder that looks for files that include the comment, those items you've tagged this way will appear in the smart folder within the sidebar.

How Snoop-Proof Is Your Mac?

Q: If my computer is lost or stolen—or a person in my office or home wants to pry—can someone log in with their username (or pull the hard drive and mount it on another Mac) and see my

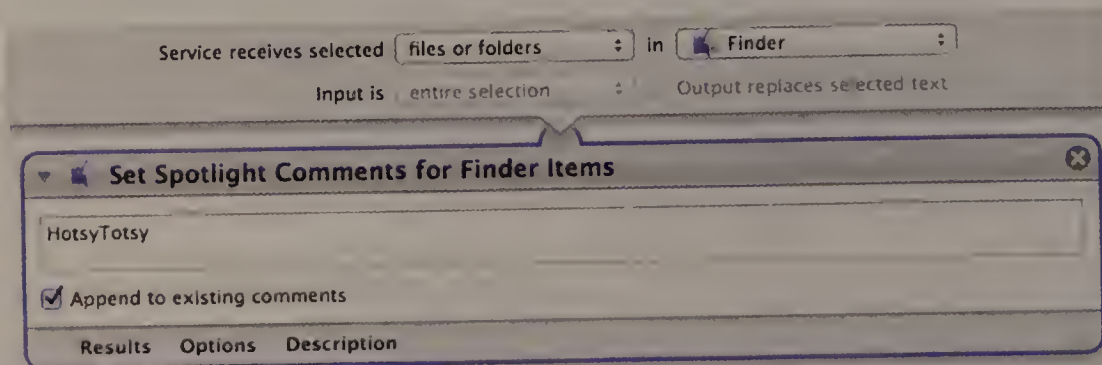
contacts, calendar, and email messages by scanning my drive?

Evan Katz

A: Yes. If someone has physical access to your computer and its hard drive, they can simply mount your Mac's hard drive as an external storage device, log in to their computer with a root account, and then rummage freely through your stuff. Any normal protections you had in place will be defeated by the person's root powers.

Fortunately, Apple provides a way to protect your data in the form of FileVault (which you'll find in Mountain Lion's Security & Privacy system preference). When you enable FileVault, your Mac's disk is encrypted (normally, it takes a few hours to encrypt a drive). If you have multiple accounts on your Mac, you'll be asked which will be allowed to unlock the drive. This is helpful when Tom, Dick, and Mary all have user accounts on a particular Mac, but you wish to trust only Mary with this kind of access.

Once you've approved the accounts, you'll be provided with a recovery key that's composed of a long string of characters. This is for cases where you've forgotten the password for an account that's authorized to unlock your drive. You can choose to store this key with Apple, so that you can later recover it after answering security questions. If you have neither the password nor the recovery key, you're in deep trouble—you can't unlock the drive.



One-Stop Tagging Use this simple Automator workflow to easily assign Spotlight comments.



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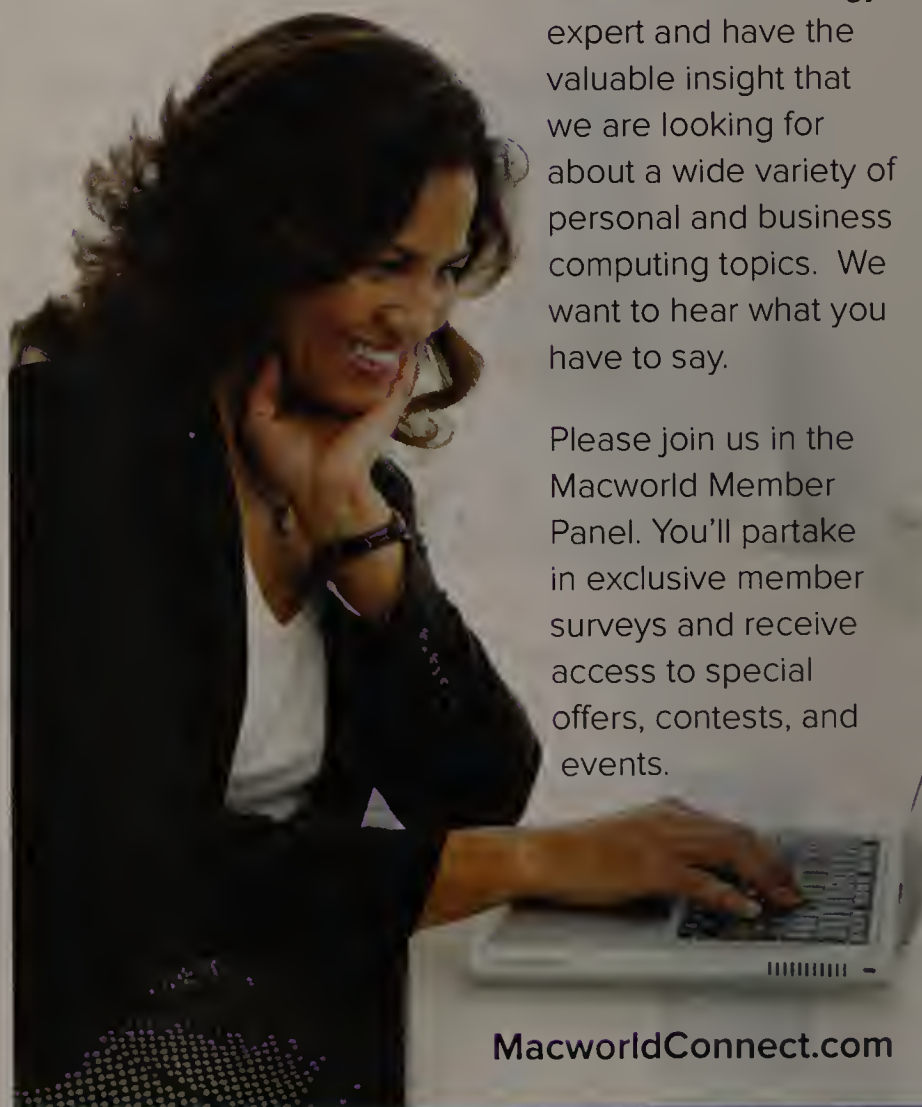
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are gone from Provence. The harvest's been gathered. The south of France exhales, resuming her essential rhythms, manifesting her ancient uniqueness, effortlessly. It's the perfect time and place to relax, recharge, and revel in the latest in all things Apple on a Rhone River cruise from November 29 to December 6, 2013.

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- Instant E-Publishing
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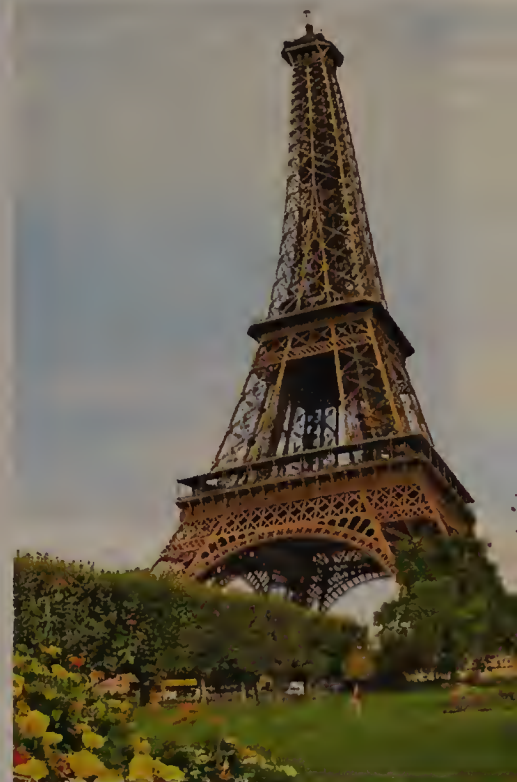
- Mac OS: Offloading Your Brain
- Drive Your Mac From the Keyboard
- Oh, the Things You Can Make
- Improve Your iOS Efficiency

JOE KISSELL

- Stay Safe Out There
- The Joy of (Plain) Text
- Living on a Desert Island with Only iOS
- 50 Things You Didn't Know Your iOS Device Can Do

LYNNE LANCASTER, PH.D.

- Intro to Culture & Technology in Gaul
- Fire-Based Technologies in Gaul
- Building an Amphitheater
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Insider's tour of Cern

Pre-cruise: November 28, 2013—From the tiniest constituents of matter to the immensity of the cosmos, discover the wonders of science and technology at CERN. Join Bright Horizons for a private pre-cruise, custom, full-day tour of this iconic facility. (If the LHC is still undergoing its scheduled maintenance it is likely we will go into the LHC Tunnel.)

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Our full day will be led one of our speakers (TBA) and by other CERN physicists. We'll have an orientation; visit an experiment; get a sense of the mechanics of the large hadron collider (LHC); if at all possible, go down inside the LHC tunnel (picture above); make a refueling stop for lunch; and have time to peruse the grounds and exhibits on the history of CERN and the nature of its work. And if you're so inclined, the CERN gift shop.

The price is \$899 per person (based on double occupancy). This trip is limited to 50 people. NOTE: CERN charges no entrance fee to visitors.

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LEGAL NOTICE

You may be entitled to a cash payment from a class action settlement fund if Apple denied warranty coverage for your iPhone or iPod touch because Apple stated your device had been damaged by liquid.

This settlement affects you if Apple denied warranty coverage because Apple stated that your iPhone or iPod touch had been damaged by liquid. The settlement will create a \$53 million fund that will be used to pay eligible Settlement Class Members, and to pay incentive awards to the Class Representatives and attorneys' fees and costs to Class Counsel, as approved by the Court. If you qualify, you may send in a Claim Form to ask for payment, or you can exclude yourself from the settlement, or object. Some Settlement Class Members will receive a separate notice advising them that they will receive a payment even if they do not submit a claim.

The United States District Court for the Northern District of California authorized this Notice. The Court will have a hearing to consider whether to approve the settlement, so that benefits may be paid.

This is a summary of the lawsuit and of your legal rights. Please visit www.applewarrantysettlement.com or call 1-855-282-8115 to obtain additional important information, including a Detailed Notice.

Who's Affected?

You are a Settlement Class Member if you are: (1) a U.S. resident who is or was the owner of an iPhone or iPod touch; (2) which was submitted to Apple for warranty coverage on or before **December 31, 2009**, for an iPhone, or on or before **June 30, 2010**, for an iPod touch; (3) while your iPhone or iPod touch was covered by Apple's one-year limited warranty coverage or, if applicable, the AppleCare Protection Plan; and (4) Apple denied warranty coverage because Apple stated that your iPhone or iPod touch had been damaged by liquid.

What's This About?

The lawsuit claimed that Apple wrongfully denied warranty coverage by stating that iPhones and iPod touches had been damaged by liquid because a Liquid Contact Indicator ("LCI") (also known as a Liquid Submersion Indicator), which is visible through the headphone jack or through the dock connector port, had turned pink or red. Apple denies all allegations and is entering into this settlement to avoid burdensome and costly litigation. The settlement is not an admission of wrongdoing.

What Can You Get from the Settlement?

Apple has agreed to create a \$53 million Settlement Fund. The fund will be used to pay eligible Settlement Class Members, and also to pay incentive awards to the Class Representatives of up to \$1,000 each and attorneys' fees and costs to Class Counsel, not to exceed 30% (\$15.9 million) of the \$53 million Settlement Fund, for their services as approved by the Court. Apple has reserved the right to object to the amount of attorneys' fees, costs, and incentive awards. Any undistributed funds will be disbursed to one or more non-profit entities approved by the Court. Apple has also agreed to separately pay for the cost of notice and settlement administration.

The amount you receive from the settlement will depend on a number of factors, including the type of device you owned and the number of Class Members eligible to receive payment from the Settlement Fund.

How Do You Get a Payment?

A Detailed Notice and a Claim Form contain further information about claims submission and potential payment amounts. Just call the number or visit the website below to get one. Unless you are notified by mail or email that you are a Direct Payment Settlement Class Member and do not need to submit a Claim Form, you must submit a Claim Form on or before October 21, 2013 to get a payment.

What Are Your Options?

If you don't want a payment and don't want to be legally bound by the settlement, you must exclude yourself by December 4, 2013, or you won't be able to sue, or continue to sue, Apple about the legal claims in this case. If you exclude yourself, you can't get a payment from this settlement. If you stay in the class, you may object to the settlement by December 4, 2013. The Detailed Notice explains how to exclude yourself or object.

The Court will hold a hearing in this case (*In re Apple iPhone/iPod Warranty Litigation*, Case No. 10-01610 (N.D. Cal.)) on January 29, 2014 at 1:30 p.m. to consider whether to approve the settlement and whether to approve the incentive awards and attorneys' fees and costs sought. You may appear at the hearing, but you don't have to. The fairness hearing and other dates may change by order of the Court without further notice. Any changes will be posted to the Settlement Website. For more information, including a Detailed Notice, go to www.applewarrantysettlement.com, call 1-855-282-8115, or write to Apple Warranty Settlement Administrator, PO Box 43184, Providence, RI 02940-3184.

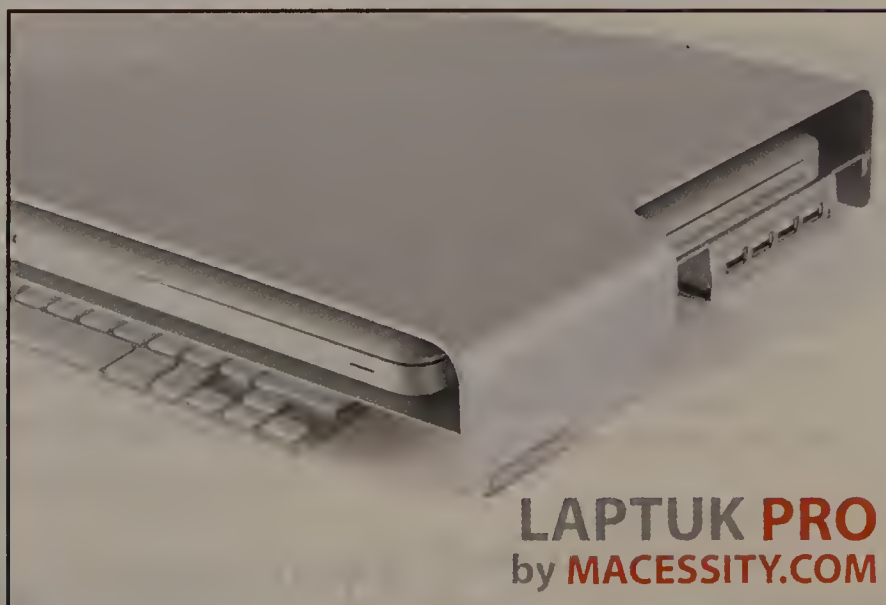
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Apple's Security Strategy: Make It Invisible

In its next-generation OSs, Apple has found a way to combine good security with good user-interface design.

Among the many new features in iOS and OS X that Apple discussed at its Worldwide Developers Conference were two important security-related ones: iCloud Keychain and Activation Lock.

Security is all about placing obstacles in the way of attackers, but (despite the claims of security vendors) those same obstacles can get in the way of users, too.

Take passwords: As essential as they are to protecting us and our devices, passwords are among the most universally despised things about using technology.

For many years, Apple tended to favor good user experience at the expense of leaving users vulnerable to security risks. That strategy worked, in part, because Apple's relatively small market share made its products less attractive as targets. But as Apple products grew more popular, many security guys (like me) wondered how Apple would adapt its security strategies to its new position in the spotlight.

Despite a rocky start, Apple now applies its impressive design sensibilities to security, playing the game its own way and in the process changing our expectations for security and technology.

Pragmatic Design

One key principle guides Apple's approach to security: The more you impede a user's ability to do something, the more likely that user is to circumvent security measures. We saw some good examples of this idea in the company's WWDC keynote.

iCloud Keychain: Why add a password manager to the operating system and default browser when plenty of third-party applications can do the job, and when users aren't screaming for the feature?

The answer is that Apple wants to make the issue go away for the average user. The company can't stop the onslaught of phishing attacks, but it can add a built-in,

cloud-based password manager that reduces security risks and improves the user experience. Users can rely on complex, site-specific passwords that—with no user effort—synchronize across all of their Apple devices and are available whenever they're needed.

The deep browser integration demonstrated at WWDC means that users won't have to manage plug-ins or click extra buttons to decide when to use the tool: It seems to pop up exactly when needed, making a Keychain-created password easier to use than a manually entered one.

iCloud Keychain might not be adequate for power users, but it will bring the power of password management to the masses.

Activation Lock: Theft of iDevices is rampant throughout the world. Phone carriers could dramatically reduce theft by refusing to activate stolen phones, but

they've been slow to act. And if domestic carriers did create a registry, it's unlikely that all foreign carriers would, and bad guys would simply ship phones overseas.

Activation Lock takes the decision out of carriers' hands. Barring new hacking techniques, phones tied to iCloud accounts will be unusable once stolen. Users need only possess a free iCloud account to take advantage of the feature.

Gatekeeper and the Mac App Store: Combining sandboxing, the Mac App Store, and code-signing, Gatekeeper dramatically reduces a user's chances of being tricked into installing malware.

Again, Apple addressed the user side of the problem. It didn't rely on deep security technologies that targets could be tricked into circumventing. Rather, by pushing users to rely on applications from the Mac App Store and by providing strong incentives (such as easier updates and no additional cost per computer), the company reduced the need to manually download apps from different locations. Apple then added Gatekeeper so that users wouldn't accidentally install applications from untrusted sources.

This approach attacks the economics of malware while minimally affecting the user experience. Most Apple device users don't have to think about where their software comes from or worry about being tricked into installing something bad.

Invisible and Practical

The consistent thread here is Apple's effort to improve the user experience and make common security problems simply go away. By focusing so much on design, Apple increases the odds that users will adopt the technologies and so stay safer.

Rich Mogull is an industry analyst and the CEO of Securosis. He is also the security editor at TidBits.

As Apple products grew more popular, security guys (like me) wondered how Apple would adapt its security strategies.



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